

**PEDAGOGICAL RESEARCH AND CONTINUOUS TEACHER TRAINING IN
THE SCHOOL ENVIRONMENT: A NECESSARY RELATIONSHIP**

***PESQUISA PEDAGÓGICA E FORMAÇÃO CONTINUADA DE PROFESSORES NO
AMBIENTE ESCOLAR: UMA RELAÇÃO NECESSÁRIA***

***INVESTIGACIÓN PEDAGÓGICA Y FORMACIÓN CONTINUA DEL PROFESORADO
EN EL ÁMBITO ESCOLAR: UNA RELACIÓN NECESARIA***

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ABSTRACT: This literature review article and the descriptive and interpretive analysis aimed to gather, interpret, and analyze publications that discussed the contributions of pedagogical research to the continuing education of teachers *in locu* as an investigative attitude and inseparable from the teaching work. Publications developed in the period between 2008 and 2017 were analyzed, considering the impact, in this period, produced in the literature on teacher education, through the idea of subject-agent and enhancement of pedagogical research fostered in both initial and continuing teacher education. The results indicated the important relationship between the research activity of pedagogical practice and continuing education *in locu* as an essential methodological possibility for teacher education. It is concluded that the continuing education of teachers needs to take place in school time and space and value the pedagogical research carried out *in locu*, intending to assist the teacher in the construction of their professionalism and theoretical deepening which is promoted from experiences.

KEYWORDS: Education. Continuing teacher education. Pedagogical research. Training “*in locu*”.

RESUMO: *Este artigo de revisão bibliográfica e análise descritiva e interpretativa objetivou reunir, interpretar e analisar as publicações que discutem as contribuições da pesquisa pedagógica para a formação continuada de professores in locu enquanto atitude investigativa indissociável ao trabalho docente. Foram analisadas as publicações desenvolvidas no período entre 2008 e 2017, considerando o impacto, neste período, produzido na literatura sobre a formação docente, pela ideia de agente-sujeito e valorização*

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da pesquisa pedagógica, fomentada tanto na formação inicial como continuada de professores. Os resultados indicaram a importante relação entre a atividade de pesquisa da prática pedagógica e a formação continuada in locu como possibilidade metodológica essencial à formação do professor. Conclui-se que a formação continuada de professores precisa realizar-se no tempo e espaço escolar e valorizar a pesquisa pedagógica realizada in locu, com vistas a auxiliar o professor na construção de sua profissionalidade e aprofundamento teórico promovidos a partir das experiências.

PALAVRAS-CHAVE: Educação. Formação continuada de professores. Pesquisa pedagógica. Formação “in locu”.

RESUMEN: Este artículo de revisión bibliográfica, y análisis descriptiva e interpretativa tuvo como objetivo recopilar, interpretar y analizar publicaciones que discutan los aportes de la investigación pedagógica para la formación continua del profesorado en el locu de la escuela como una actitud investigadora inseparable de la practica docente. Se analizaron las publicaciones desarrolladas en el período comprendido entre 2008 y 2017, considerando el impacto, en este período, producido en la literatura sobre la formación del profesorado, por la idea de sujeto-agente y la valoración de la investigación pedagógica impulsada tanto en la formación inicial como continua del profesorado. Los resultados indicaron la importante relación entre la actividad investigadora de la práctica pedagógica y la formación continua en el locu como posibilidad metodológica esencial para la formación del profesorado. Se concluye que la formación continua de los docentes debe tener lugar en el tiempo y el espacio escolar y valorar la investigación pedagógica realizada en el locu, con miras a ayudar al docente en la construcción de su profesionalismo y profundización teórica promovida a partir de las experiencias.

PALABRAS CLAVE: Educación. Formación continua del profesorado. Investigación pedagógica. Formación “in locu”.

Introduction

Considering practice as an instrument of research and reflection in the context of continuing education denotes a qualitative path for the development of formative actions and, in turn, of pedagogical action. Therefore, it is essential to value the practice research, developed by the teacher in direct action in the pedagogical action, since this is shown to be linked to their need and, certainly, contributes to teacher formation in different educational contexts. The research on pedagogical practice is considered here, therefore, as an aggregating element of quality and meaning for formation and, consequently, for the development of the teacher's autonomy and work.

Under these ideas, this article of bibliographic review and descriptive and interpretive analysis aimed to gather, interpret and analyze publications that discuss the contributions of pedagogical research to the continuing education of teachers *in locu* as an investigative



attitude inseparable from the teaching work. We seek to answer the following question: how can pedagogical research contribute to teaching practice in their continuing education and how have research delimited the theme in the academic sphere?

The information was organized considering, initially, the presentation of the concept of pedagogical research and the importance of the investigative attitude as a practice inseparable from the teacher's work. Then, we discuss some characteristics of continuing education *in locu*, considering teacher education, based on their concerns and individual and collective problems diagnosed and experienced in the school context, understanding them as a starting point for their problematization, reflection and possibility of investigation. Finally, based on the data obtained, we discuss the relationship between pedagogical research activity and continuing education *in locu*, and how this type of research is essential for teacher education through investigative practices.

The school as a locus of formation and a starting point for reflection, problematization and teacher investigation

The research on pedagogical practice is intrinsically linked to teaching in action and may constitute an important methodological possibility to support the teacher in his/her performance. Regarding the research on pedagogical practice, Oliveira (2000, p. 148) states that it not only helps the act of teaching, planning, guiding and evaluating learning with the reflection of teachers, but, above all, it reflects the reality of teaching, understanding and problematizing it.

The investigative activity must integrate the pedagogical practice, so that the teacher becomes intrinsically a researcher, that questions their decisions, that they start from hypotheses when planning their classes, that they make critical readings of materials and documents and, especially, that they question the social function of school and whether this function has been consolidated (ALARCÃO, 2003, p. 5).

Abreu and Almeida (2008) point out that research into pedagogical practice becomes an essential part of the practice itself, as it effectively contributes to the professional development of teachers and their teaching institutions, and point out reasons for teachers to carry out research on the their own practice, namely: to know how to act effectively in relation to issues inherent to the curriculum and their professional performance, in order to seek ways to face the problems that may arise from their practice; to contribute to building a

heritage of culture and knowledge of teachers as a professional group; and to contribute to discussions around educational problems.

The idea that formation can take place in occasional moments or through "ready packages" should give way to formation in a continuous way, permeating the various moments of the teacher's daily work and, mainly, based on the teacher's reflection "in" and "on" your practice. The concept of continuing education *in locu* carries with it a break with technical rationality, with what Imbernón (2010, p. 55, our translation) considers as models in which "[...] there is a great decontextualization of teaching, of the real contexts of educators, since for different educational problems the same solution was suggested".

We converged on the idea that it is in the school context and – we can specify even more – in the classroom where the pedagogical action takes place. Therefore, it must be at and through the school that the improvement of this action must be planned, implemented, evaluated and reflected on. The prospect of becoming a researcher of their own practice presupposes a much greater commitment on the part of the teacher to their continuing education, not only in the development or participation of proposals, but also in the planning, evaluation and reformulation of the strategies that underlie them.

Ghedin (2012, p. 152, our translation) states that the relationship we establish between practice and the interpretations we make of it is called theory, that is, the way we interpret the way we act in the world. The reflection on the practice is constituted by the questioning that is made of the practice, "[...] and an effective questioning includes interventions and changes". Therefore, it is necessary that there is a change in the epistemology of action, moving to the epistemology of praxis, which is a movement that simultaneously operationalizes action and reflection on practice, making theoretical and practical aspects inseparable.

Reflection provides teachers with greater knowledge of their reality, of their day-to-day issues, favoring tools for action and resolution of emerging problems in the school context and their involvement with society. Thus, the moments devoted to continuing education at school constitute a space that goes beyond reading excerpts or chapters of works that are often far from what the teacher, in fact, needs to know to work in the classroom. They configure moments of self-knowledge and self-reflection, a space to learn about their own history and that of their peers, relate their current practice with the practices experienced by themselves and by colleagues, question and question themselves, confront and debate ideas, opinions and approaches, and especially, becoming aware of the school's culture, its surroundings and its reality, therefore, these are questions that must have a formative intention.

The implementation of formative projects must consider the meanings and interpretations that teachers give both to the formative process and the opening to the new, ensuring that the way in which changes have affected their beliefs and pedagogical action is also considered in this process. The teacher, therefore, begins to establish a relationship of his pedagogical practice with the theoretical field and other aspects that are linked to his work, with the school context, with students, with educational policies, among others, based on the reflection on his school reality (IMBERNÓN, 2010).

Contreras (2002) signals that it is necessary for the teacher to constitute himself as a critical intellectual, that is, as an active, participative and investigative professional, who contextualizes and investigates the historical and social aspects present in school practice. Thus, the nature of teaching work is based on questions and the search for solutions to problems. That is, formation must be developed from the investigative attitude of the teacher, who in their reality, experiences the problems and searches in theory, in the exchange of experiences and through different resources, ways to solve or respond to the challenges of daily life. Continuing education should enable teachers, therefore, to learn how to teach, and through their personal reflection, theorize their practice and produce professional knowledge and autonomy.

Methodological aspects: the data generation process

In order to bring to light what studies and research on the theme "Continuing teacher education" demonstrate, more specifically when formation takes place *in locu*, and considering pedagogical research as a determining instrument for the quality of formation offered, we sought through the bibliographical review, according to Lima and Miotto (2007), and the descriptive and interpretive analysis, to map the scientific production, with regard to dissertations and theses, published in the period from 2008 to 2017, with a view to analysis and interpretation the impact produced in the literature, in the last decade, of studies and investigations about teacher education, viewed by the idea of subject-agent and the valorization of pedagogical research as a field of knowledge in teacher education and performance.

For this purpose, the generation of data took place, initially, through the search and location, gathering, selection and ordering of studies and research on the topic addressed, together with the databases of the Brazilian Institute of Information in Science and Technology (IBICT), which coordinates the Brazilian Digital Library of Theses and

Dissertations (BDTD). This database was chosen because it is a repository that integrates the information systems of theses and dissertations from renowned teaching and research institutions in Brazil, which aims to encourage and enable the Science and Technology community to disseminate their studies and research produced in the country and abroad. Only the works that were related to the theme were considered. After the selection of materials, the organization and systematization of the contents was carried out through the production of a synthetic table, consisting of the registration of the studies' references (author, research title, institution), in addition to an abstract informed by the authors. The information, in this sense, was organized in chronological order, according to the year of publication and, later, composed the set of master's dissertations and doctoral theses published between 2008 and 2017.

From the combination of the expressions "education", "continuous teacher education", "in-service formation" and "pedagogical research", it was possible to reach a satisfactory result of studies that were intrinsically dealing with *in locu* continuing education, from the pedagogical research. The search returned 13 publications, 10 Master's theses and three Doctoral theses. Having identified such publications, we proceeded to read the abstracts, in order to verify or not the convergence with the objective of this study, which resulted in two axes: "Continuing education of teachers *in locu*" and "Continuing teacher education from the perspective of research pedagogical", analyzed in a descriptive and interpretative way.

Results and discussions

The axis "Continuing education of teachers *in locu*" allowed the recovery of aspects that made up the research, regarding in-service teacher education and the characteristics that this modality proposes, from different approaches.

We highlight the master's research by Zumpano (2010), entitled "*O Coordenador Pedagógico e o seu papel na formação continuada em serviço do professor de Educação infantil (creche)*" (The Pedagogical Coordinator and his role in the in-service continuing education of early childhood education teachers (nursery)), which investigated the role of the pedagogical coordinator in the in-service continuing education process. The author sought to discuss the fundamental role of the coordinator as an articulator and integrator in the continuing education process; the main challenges of the pedagogical coordinator's role and the personal formative needs to act on this front. It demonstrated that the pedagogical coordinators consider themselves responsible and committed to the continuing education of

the teachers with whom they work and assume the posture of solving the challenges inherent to the process, proposing alternatives for action and evaluating the extent to which the professional appropriates in-service continuing education.

Gava (2011), in his dissertation entitled “1970 – *Professores do campo e no campo: um estudo sobre formação continuada e em serviço na Escola Distrital Padre Fulgêncio do Menino Jesus, no município de Colatina/ES*” (1970 – Teachers of the countryside and in the countryside: a study on continued and in-service formation at the Padre Fulgêncio do Menino Jesus District School, in the municipality of Colatina/ES), based on a qualitative study, aimed to analyze and understand the formative processes of professionals who work in a district school, in rural education. The teaching professionalization and the historical and social standardization that define it are conceptually evidenced in this study, which, from the dialogues, demonstrated the tensions and expectations experienced by the subjects when seeking to transform the district school into a peasant reality school, as well as providing a mobilization that made them active in their formative paths.

Silva's dissertation (2013), entitled “*Formação continuada colaborativa de professores em serviço: o caso da EMEF José Áureo Monjardim*” (Collaborative Continuing Education of Teachers in Service: the case of EMEF José Áureo Monjardim), described and analyzed a pioneer continuing education program in the context of an Elementary School, in order to learn about the limits and possibilities of its creation and functioning. The results indicate fundamental structural elements to justify the importance of continuing education at school. He concluded that it is possible to promote an *in locu* formation project and, through it, promote significant changes in the school environment.

Lourenço (2014), in his dissertation: “*A formação continuada em serviço de professores e as atividades do horário de trabalho pedagógico coletivo nas escolas dos anos iniciais do Ensino Fundamental*” (The continuing in-service formation of teachers and the activities of the collective pedagogical work schedule in schools in the early years of Elementary School), analyzed the feasibility of continuing in-service formation, more specifically in HTPC's, in order to identify the relationships between the practices carried out in these meetings and the essential defining aspects of continuing education. The work concluded that, in the monitored schools, formation still does not take place in an effective way because it is a fragile meeting and disarticulated from the needs felt by the collective of teachers. It found an undemocratic management, which makes a space for exchanges and organized dialogues unfeasible and does not seek alternatives for resistance in these spaces/times.

Nhanisse (2014), in the dissertation “*Formação continuada em serviço: enunciados dos professores sobre seu percurso formativo na relação com o fazer pedagógico*” (Continuing in-service formation: teachers' statements about their formative path in relation to pedagogical practice), analyzed how teachers think and evaluate their continuing education process and its relationship with in-service teaching practice. Empirical studies carried out in a school in Brazil and one in Mozambique pointed to a continuing education that lasts for a long term, in a continuous process and that allows the teacher to rethink their role, so that, based on inventive practices, enables the student to learn with pleasure and have a voice in the learning process.

Guaraldo (2015), in the dissertation “*A formação contínua em serviço: um estudo das representações de professores e gestores em três municípios paulistas*” (Continuing in-service formation: a study of the representations of teachers and managers in three municipalities in São Paulo) presented, in the theoretical perspective of Henri Lefebvre's dialectical anthropology (1980), representations of continuing education of teachers and managers. This research revealed that the different representations of managers and teachers influence formation programs, noting that, in contexts where formation takes place in greater and better quantity, teachers tend to represent in-service formation as a source of pedagogical knowledge, which, consequently, entails the improvement of their teaching practice and, in this sense, managers demonstrate a greater degree of involvement and autonomy in conducting these programs.

Sant'Anna's thesis (2016): “*Formação continuada em serviço para professores da infantil sobre o brincar*” (Continuing in-service formation for children's teachers about playing), proposed an in-service continuing education for early childhood education teachers who work in regular and public schools. The focus of the formative process was games for children, the target audience of Special Education. The results indicate that this in-service continuing education model, based on the individual needs of the Special Education target audience, should be carried out in five stages: knowing the teacher's demand; identify the needs of the target audience of Special Education from the perspective of the family; act together with the teacher in the classroom in activities in which he demonstrates difficulties; prepare a PDI, based on the children's competence; and, finally, build strategies for the planned situations to facilitate the learning process.

Ferreira (2017), in the thesis “*As tecnologias digitais da informação e comunicação nas aulas de Educação Física: a formação continuada em serviço de professores da rede pública*” (Digital information and communication technologies in Physical Education classes:

the continuing in-service formation of public school teachers), analyzed the importance of Digital Information and Communication Technologies (DICT) as a teaching resource for Physical Education classes, from an in-service formation process for teachers of this curricular component. The work was divided into four articles, the first three being bibliographical research, which were intended to help expand knowledge on the subject, and the fourth on the development of continuing education action. The investigation was considered qualitative research, in which the formation course called “Information and Communication Technologies in Physical Education at school” was analyzed. The results showed that teachers were able to overcome the limits and difficulties to use technologies in their pedagogical practice.

In the axis "Continuing education of teachers from the perspective of pedagogical research", we highlight the dissertation by Silva (2009), entitled “*Formação continuada de professores em serviço: em busca de um currículo em ação intermulticultural*” (Continuing education of in-service teachers: in search of a curriculum in intermulticultural action), which investigated the work of teachers and a coordinator who works directly with students from Cycle I of Elementary School, focusing on the formative process, in order to raise awareness and raise awareness for the construction of a teaching practice focused on dealing with issues related to equality, difference and inequality. It was possible to conclude that it is not enough that curricular transformations, regarding the issue of multiculturalism, occur in the bureaucratic field, but that pedagogical practices are rethought so that, in fact, there are awareness processes for the implementation of new contents for this issue.

Passalacqua (2013), in the dissertation “*Necessidades pessoais e coletivas de professores dos anos iniciais do ensino fundamental: um estudo qualitativo em busca de estratégias de formação continuada em serviço*” (Personal and collective needs of teachers in the early years of elementary school: a qualitative study in search of in-service continuing education strategies), verified influencing factors that make up the personal and collective needs of teachers of the years elementary school, in addition to analyzing the relevance of these needs in in-service continuing education and also demonstrating the contributions of the partnership between University and School. The results indicated that the personal needs of teachers are associated with the choice and exercise of the profession and resistance to change processes. As for the collective needs, they demonstrated the working conditions, the school space and its daily relationships, in addition to issues involving pedagogical practice and its limits for school planning. Concluding that when considering these aspects, the continuing education processes will really have participation and interest as principles.

The dissertation by Assis (2014), entitled “*Formação contínua em serviço: o olhar do professor*” (Continuing in-service formation: the teacher's perspective), analyzed and reflected on the view/perception of teachers on the effects of the HTPP program: Working hours in the development of Projects and Research in professional practice in the classroom. It intended to demonstrate the extent to which in-service training actions translate significant changes in pedagogical practices and student learning. It was evidenced as results that the subjects evaluated the HTPP program as a fundamental action to be undertaken in schools. It demonstrated that the organization of the program is not satisfactory and, thus, does not effectively interfere with formation.

Caramori (2014), in his thesis entitled “*Estratégias pedagógicas e Inclusão Escolar: um estudo sobre a formação continuada em serviço de professores a partir do trabalho colaborativo*” (Pedagogical Strategies and School Inclusion: a study on in-service continuing education for teachers based on collaborative work), which deals with the continuing education of teachers to work in inclusive contexts, analyzed two realities educational institutions of different nationalities (Brazil and Spain) to find out how pedagogical practices are carried out within different inclusive school units. The results led to reflection on three aspects. The first one refers to the way in which continuing education in service was carried out, in which the real difficulties of the teachers were dealt with, improving their practices with reflections on their own actions. The second aspect refers to collaboration, as, for the subjects, the way in which the meetings and discussions were conducted helped in their mutual enrichment. It demonstrated that mediation was made possible through the gradual learning of the criteria that underlie it and the pedagogical practice of each one of them.

Souza's dissertation (2017), entitled “*Formação continuada em serviço: do coordenador pedagógico ao professor: o caso da rede municipal de São Paulo*” (In-service continuing formation: from the pedagogical coordinator to the teacher: the case of the municipal network of São Paulo), investigated the way in which continuing education occurs and the contributions or non-contributions in view of the wishes and needs of the subjects involved in the process, considering the daily needs of the school, the pedagogical practice of teachers and student learning. The results brought to light instruments to formulate programs for further research-intervention, based on the demands inherent to the pedagogical practices raised.

The works of the axis “*Formação continuada de professores in locu*” (Continuing education of teachers *in locu*) made possible the view that it is essential to relate the continuing education of teachers in the workplace to the research that teachers themselves

carry out on a daily basis from their own action and, furthermore, that this exercise makes it possible the assumption of a posture of researchers that goes beyond what was previously called the epistemology of practice to the epistemology of praxis, so that the formative actions allow the teacher to go on a daily basis as a researcher in action, and that this promotes also the inseparability of theory and practice, so that one serves the other.

From the socialization of knowledge arising from experience and practice and added to theory, which should dialogue with this knowledge, the research of pedagogical practice in the school environment favors “[...] the disintegration of a hardened relationship, in which traditionally theory was taken as a text to be transformed into a method and applied in practice” (DINIZ-PEREIRA; LACERDA, 2009, p. 1234, our translation).

The results indicated the reflection and analysis of teaching practice, resulting from the pedagogical research *in locu*, as a starting point for the transformation of collective practice, towards a collaborative action, which Alarcão (2003, p. 58, our translation) understands as a practice in which teachers, “[...] in collaboration, have to build thoughts about the school and what is lived in it. It is in this context that study circles and discussion groups on hot topics also gain strength”. However, by indicating the scarcity of studies on the direct relationship between teacher education and pedagogical research *in locu*, the data obtained pointed towards the need for this topic not only to feature in continuing education contexts, but also to integrate initial teacher education, an occasion in which the investigative attitude can be forged as pertinent to the very constitution of the teacher, in a way that leads them to naturally see and understand the investigation of their own professional reality as a starting point for the transformation of contextualized teaching practice, from of political-ideological, social, economic and cultural aspects.

Penitente, Giroto and Souza (2018, p. 337) argue, about formation in research from initial formation, with a view to the impact and use of research in in-service formation, that the teacher who has experienced research activities in their initial formation, regardless of their professional choice, they will tend to assume a different posture in the classroom, being more likely to become an active, critical, participative subject, author of their practice, seeking new knowledge and new paths.

For Domingues (2014, p. 71, our translation), teacher formation at school should not be seen only as a change in the space where these training processes take place, but from a new concept of continuing teacher education, “[...] product of a historical construction, of the complex dynamics of the objectified school, of the relationships established by the subjects involved in this process and of the conditions offered”.

Continuing education should be guided by collective work, by research carried out by teachers about their own practice, aiming at their professional development and the quality of education offered to students. This formative perspective can be minimally made possible by aspects related to the organization of spaces and times in which the processes will occur, the consideration of the formative needs of the school, the "co-responsibility of teachers for their professional development" and the formation of a professional, such as the pedagogical coordinator, for example, who is able to promote formation in a thoughtful way, going beyond the limits given by the traditional paradigms of formation and exchanging recipes of activities (DOMINGUES, 2014, p. 72).

When considering training *in locu*, the practices implemented must ensure that the real needs of teachers and other professionals are considered so that, based on collective work, the problems of the multiple contexts that make up the school are thought through, reflected on and resolved. Still, it is necessary that the teaching action transcends, even if little by little, the walls of the school, and that the macro context is considered, from teacher planning to the student that the school gives back to society.

Regarding the axis: "Continuing education of teachers from the perspective of pedagogical research", the studies move towards treating the relevance of continuing education from the perspective of pedagogical practice, linking this as a determining factor for the quality of teaching practice. In this way, pedagogical research is configured in the formative process as a tool that enhances teaching practice, as research has a great contribution to the formative processes, as they are presuppositions for the investigation "[...] the articulation of cognitive processes, linguistic, creative, dialogic, and more". In this sense, research on pedagogical practice contributes to the construction of teaching knowledge and helps teachers in "[...] building their professional practice". It favors knowledge of everyday school life and the production of systematized, discussed and socialized knowledge (PENITENTE, 2012, p. 25, our translation).

Passalacqua (2013) shows that formation should take place based on the results of research carried out by teachers as researchers in action. Continuing education directly linked to the real needs of the teacher or group of teachers can be seen as a possibility of professional renewal, which motivates the exercise of the teacher's pedagogical practice, which builds their autonomy, which makes them subjects of their own action and continued formation, as they can be involved in this process from the assessment of needs, as well as in the execution and evaluation of actions. In this sense, it is up to the teacher to reflect on their daily practice and seek tools to deal with the challenges of the profession (PASSALACQUA, 2013, p. 35-36).

For Pimenta (2012, p. 23), experience produces "knowledge in action" and thinking about action, which he calls "epistemology of practice", in which the teacher does not rely only on established theories and techniques, but in addition to these, it seeks strategies to understand and analyze the problem in order to promote actions that meet its demands. Furthermore, is this movement that the author calls "reflection on reflection in action" places research at the heart of the formative process.

Another issue raised was that of working conditions, which must be guaranteed to the teacher in order to facilitate research processes and especially the use of research in continuing education. Thus, spaces and moments for continuing education should legitimize the actions and research carried out by the teacher, so that they are in fact consistent with their performance as a teacher and researcher. For Assis (2014, p. 146), minimum conditions are essential for continuing education to take place in the school space, effectively and with dignity, being an integral part of the working day, in addition to physical, structural and material aspects that are consistent with the needs. This is also true regarding teamwork, which should gradually be added to training actions. In addition, it should be clear that formation takes place not only in the space-time planned for this purpose, but, as it is a continuous modality of formation, it takes place all the time, as part of human formation, in constant development.

The research of pedagogical practice must be the tool for the construction of the teacher's intellectuality as a producer of knowledge in action, which the literature proposes as a classroom investigator, who formulates his strategies and reconstructs his practice and who, as professional and critical citizen, thinks about the social and political reflexes of its action, so that the school is in fact emancipatory for the subject that it seeks to form.

Final considerations

We found that the formation of teachers with an investigative attitude requires that this issue be addressed in the context of public educational policies, as well as in the constitution of proposals for initial teacher formation offered by higher education institutions. This is a complex issue that cannot be reduced to the precariousness of teacher education, even though it permeates this aspect, as it is embedded in the ideas underlying the concepts of research and education that support such policies and formative proposals. In this context, aspects such as individual and collective work, students, the school, the school context, the historical context, the characteristics that constitute continuing education, often reduced to formation dictated by

"fads" or linked to the accumulation of hours of courses that aim only at scores and rankings in teaching career progression need to be considered.

Pedagogical research *in locu* linked to continuing education should be structured on continuous and permanent work, subsidized by the real needs and possibilities of the school and the teacher, which considers the school as a privileged locus for formative actions, recognizing the value of theory, critical reflection and knowledge, combined with research into pedagogical practice for the construction of educational praxis. The continuing education of teachers needs to take place in school time and space, guided by the appreciation of pedagogical research *in locu*, with a view to assisting the teacher in the construction of their professionalism, theoretical foundation, valuing the teaching experience and, consequently, providing changes in its practice and in the context in which the school is inserted.

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