

Action Research and Teacher Education: the use of research in a classroom for the transformation of reality

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Abstract

This text aims to provide reflections on an education-investigation experience within a continuing education course for teachers of public schools in a municipality located in the region of the state of Rio Grande do Sul, Brazil. The object of this course involved the use of classroom research as a pedagogical tool, which was developed in an action research perspective. The participants of the course were challenged to develop investigative skills on daily school life, based on the construction and development of a research project focused on the concerns related to their contemporary teaching practices. The analysis of the modes of reception and appropriation of those involved in the research, and expressed in the materials produced, suggests how difficult it is to exercise the passage from naive to epistemological consciousness through criticality. This element reinforces the importance of the process of reflection-action-reflection in the teacher's education and his/her performance.

Keywords: teacher education, action research, research in the classroom, reception and appropriation.

Investigación-Acción y formación docente: el uso de la investigación en un aula para la transformación de la realidad

Resumen

Este texto tiene como objetivo proporcionar reflexiones sobre una experiencia de investigación educativa dentro de un curso de educación continua para maestros de escuelas públicas en un municipio ubicado en la región del estado de Rio Grande do Sul, Brasil. El objetivo de este curso involucró el uso de la investigación en el aula como herramienta pedagógica, que se desarrolló en una perspectiva de investigación- acción. Los participantes del curso fueron desafiados a desarrollar habilidades investigativas sobre el cotidiano escolar a partir de la construcción y el desarrollo de un proyecto de investigación centrado en las inquietudes relacionadas con sus prácticas docentes contemporáneas. El análisis de los modos de recepción y apropiación de los involucrados en la investigación y expresados en los materiales producidos sugiere lo difícil que es el ejercicio del paso de la conciencia ingenua a la conciencia epistemológica a través de la criticidad. Este elemento refuerza la importancia del proceso de reflexión-acción-reflexión en la formación y en la actuación docente.

Palabras clave: formación docente, investigación-acción, investigación en el aula, recepción y apropiación.

Introduction

The use of research in teacher education has the potential to promote the transformation of reality as it challenges us to *think right*, an attitude that Paulo Freire (2014) associates with *thinking about*, in other words, the process of reflection on the practice from the gradual overcoming of naive consciousness, towards the critical and epistemological consciousness.

The formative process triggered by the adoption of research in the classroom as teaching methodology moves the teaching trajectory and the school experience with possibilities to develop, respectively, *research on the teacher* and *research on the student*, precepts defended by Pedro Demo.

By means of the investigative skills offered by the presence of *research as an educational principle* in the school, both teachers and students are involved in a posture of openness to the construction of knowledge and the constitution of knowledge, based on the analysed realities, whether they are those that refer to the phenomena of daily life, or those related to the cultural and scientific legacy historically built by humanity. In addition, the problematic and unhappy posture in relation to victimising, blaming and immobilising images covered in *cultures of complaint* (Stecanela 2018), which commonly cross-link the pedagogical relationship, can give other contours to contemporary teaching practices and experiences.

The use of research in the classroom as a pedagogical tool can awaken students' interests in investigating problems of the context in which they are inserted, leading to a polarised education with social demands (Deboer 2006; Alake-Tuenter et al., 2012). The cultivation of students' concerns signals an educational process in which the knowledge base already built acts as an input to problematise the investigation context, formulate problems and research hypotheses towards the construction of new knowledge. And action research is imperative in this formative process, because it allows teachers in training, as well as teacher educators, the constant and systematic opportunity to reflect, implement and improve teaching practice in *praxis* (Tripp 2005).

Faced with this threshold, some questions emerge: To what extent do the teachers' conceptions of the challenges that accompany the contemporary school influence their ways of perceiving and intervening in the daily practice of teaching? How can we give visibility to the affirmative practices carried out inside the school and, often, silenced by the fanfare of the discourses of reproduction of the moaning that paralyses the possibilities of the transformation of reality? How can we involve the group of teachers of the school in the reflection on the practice itself, in order to contemplate the advances and to overcome the evidenced needs? Drawing from these questions and a set of other questions that were part of the process that triggered the education and the investigation, this text seeks to systematise some results.

The research described here is the result of a partnership between the University of Caxias do Sul (UCS) and the Education Department of a municipality in the state of Rio Grande do Sul, Brazil, for an extension course for teachers of Basic Education, lasting 40 hours. The object of the course involved the use of research in the classroom as a pedagogical tool, which was developed in an action research perspective, aiming at the

development of investigative skills on everyday life, where the initial focus was the re-research on the teacher in order to, in a second phase¹, involve the research on the student.

The theoretical interlocution is established with the concepts of research as an educational principle, action research in the education of teachers, as well as the concepts of *reception* and *appropriation* developed by Roger Chartier to understand how teachers use the content of education in their teaching practices, and to what extent the movement of research routes contributes to overcoming what they consider to be the school's greatest challenges. The empirical material involves narratives of more than a hundred teachers in the training stage, both face to face and online, as well as the texts of the research projects that they developed, systematised and presented the results.

More than a hundred Elementary school teachers from five public schools of the municipality participated in the face-to-face and online meetings through a Virtual Learning Environment (VLE) in the Moodle Platform. The stages that contemplate the planning and execution of a research project guided teacher training, at collective moments with the whole municipal network, and also in research groups formed within each school.

Along with this initial contextualisation, we present the structure of this text, organised in four sessions. The first one refers to the theoretical reference on research in the classroom and action research from a critical approach. The second describes the education-investigation process sheltered in the extension course, the context and the subjects of the investigation, the empirical collection with the resulting collective outputs. The third session highlights the categories of analysis that emerged from the data constructed by the course participants. Finally, the reflections regarding the potentialities and limits associated with the use of research in the classroom in teacher education, and as a pedagogical tool in an action research perspective, with a view to the transformation of reality.

Research in the classroom and action research in teacher education and performance

The use of research in the classroom and action research in teacher education and performance articulates with a broader conception, research in school as an educational principle. By adopting this premise, we operated from a critical approach and established a theoretical dialogue with authors affiliated to several areas in interface with education, with which we will have dialogue in the following sections: Dewey 1933; Wells 2001; Deboer 2006; Moraes 2007; Marques 2008; Alake-Tuenter et al. 2012; Galiazzi 2012; Moraes, Galiazzi, & Ramos 2012; Stecanela 2013; Stecanela & Williamson 2013; Demo 2015; Chartier 1990, 2009; Tripp 2005; Franco 2014, among others.

The principles of research in the classroom

Research in the classroom represents a current mode of education in which it conceives the student as the subject of learning, that constructs and reconstructs knowledge in relation to his/her social interactions. The subject of learning knows how to question, elaborate and test

1 We should point out that this text was constructed from the analysis of the first phase of this course.

hypotheses, construct arguments and communicate results (Moraes et al. 2012). In order to do that, making the research the educational principle (*Diretrizes Curriculares Nacionais Gerais para a Educação Básica*² 2013) can be a means of coping with the challenges that pervade the daily life of Basic Education. According to Moraes (2007, p. 1), research is analogous to participating in a learning game, since questions are elaborated and answers are constructed and disseminated. “Having the knowledge already built up by the participants always as a starting point, there is a reconstructive game, a gradual elaboration of more solid and grounded, more abstract and scientific knowledge”. It is in this bias of exchanges between participants in the schooling process that questions and answers are continuously and systematically constructed. In addition, according to Deboer (2006), when we carry out research, we seek to know what we do not know, so when the students’ questions are inputs to the research, these subjects can be motivated and interested in the investigative practice. It also allows the development of citizens, with questioning and inquisitive attitudes towards the problems, given the ability to ask questions and seek answers to these questions, being able to ameliorate resources, people and solve emerging problems (Deboer 2006).

Research in the classroom is made up of three fundamental principles: questioning, argument and communication. The first is the *questioning* that applies to everything; knowledge already built, attitudes, behaviors and values (Moraes et al. 2012). It is the subject of learning that must make this systematic questioning, problematising his/her context and reality. Questioning that comes from the student allows the involvement of this subject in a more spontaneous way, since the curiosities and interests will serve as a matrix for the research to be performed. Moraes et al. (2012, p. 13) affirm that “only then will the questions make sense to him/her, since, necessarily, they will depart from his/her previous knowledge. We are thus able to overcome the exercise of trying to answer questions that students have never made (...)”.

Moraes (2007) guarantees that when the student participates in the formulation of the questions, the problems to be investigated will relate to their cognitive possibilities and this will generate their interest. In addition, it is the role of school education to mobilise students’ fields of experience beyond the school walls in order to transcend their physical and temporal boundaries and research “[...] as a question, inquiry, curiosity and creativity is an excellent instrument that helps to transpose the walls of this institution that responds to the invitation and the yearnings of the actors who enter it every day, with their individual and collective trajectories” (Stecanella 2013, p. 8). Alake-Tuenter et al. (2012) carried out a literature review of the skills developed in the initial grades of Elementary school through research practice. The authors emphasised that students’ participation in the formulation of questions may help them to learn and use the evidence of the context, to arouse their natural curiosity. According to the authors, these opportunities should be systematically explored in the practice of research.

The *construction of arguments* is the second principle of research in the classroom and requires the subject of intense learning participation. The construction of arguments requires the student to be able to elaborate, test and consolidate the hypotheses aiming at the foundation of the arguments for the search for answers to the initial questioning (Moraes et

2 Document published by the Ministry of Education – General National Curricular Guidelines for Basic Education.

al. 2012). It is in this process of reasoning of hypotheses and construction of arguments that the students surpass the speech, because, in dialogue with the other subjects, they are challenged to the writing. Marques (2008, p. 27) provokes thinking about the peculiarities of speech and writing as social processes: “in speech, the word I say or escapes is said. There is no way of avoiding this fact. But in writing I can erase it, delete it or replace it. In the act of writing I feel I own my own text”. Galiazzi (2012, p. 220) also stresses that the classroom should not only become a space for oral speech, since “other cultural resources such as reading and writing need to be developed, which will make the widening of interlocutors in the classroom possible. The ability to read and write results from the use of a set of cultural resources”. It is no longer enough to dialogue and discuss a concept or problem and to solve it. It is necessary to look at other possibilities and to the written record. Wells (2001) considers that writing requires a high level of abstraction of the subject, whereas speech fulfills another function. When students produce material on the undertaken research, in order to empirically and theoretically consolidate the constructed arguments, they reconstruct their knowledge and meanings attributed to social artifacts (Wells 2001).

Communication presents itself as the third principle of research in the classroom. The constructed hypotheses “need to be debated, criticized, in order to become stronger in the arguments that constitute them” (Moraes et al. 2012, p. 17) and, therefore, need to be disseminated and shared. It is the communication that legitimates research as it expresses the understanding reached that initially occurs within the internal group, usually in the place where the research was carried out. It is the student’s responsibility to express clearly, and preferably in writing, the results of the research carried out and to submit critical evaluations for internal and external validation. Alake-Tuenter et al. (2012) emphasise that, when research is used as a pedagogical tool, students are introduced in a practical way into the process of making science as they learn to plan, formulate explanations through proof and evidence, connecting their explanations to the scientific knowledge in order to communicate and justify their explanations.

These three principles that underpin research in the classroom lead to the development of *research as a daily attitude* (Demo 2015). To this author, it is “[...] absolutely fundamental to make research the daily teaching environment, on the teacher and on the student, right away to undo the archaic expectation that research is something special, for special people” (Demo, 2015, p. 14). These principles also encompass Deweyan aspirations that research-based learning starts with defining a problem, formulating hypotheses, to simultaneously conjugate theory and practice as concomitant and complementary stages (Dewey 1933). In other words, it is essential to make the school environment the core of research, of the investigation of problems that emerge from that context, according to the interests of students and teachers. The implementation of day-to-day research in school is an alternative to teaching methodologies merely expository (Stecanela & Williamson 2013) and promotes the institution to become an environment in which learning subjects learn to intervene in reality, raise questions, propose alternatives, hypotheses and concise arguments in order to solve the problem that affects them and the wider social context. Making the research the way to teach possibly will arouse interest in the students with their learning

and motivate them (Deboer 2006; Alake-Tuenter et al. 2012), since the threshold of the re-research starts from doubts, interests and knowledge, often dormant and unidentified.

Action research through a critical approach

Action research is defined by Tripp (2005, p. 443) “[...] as any continued, systematic and empirically grounded attempt to improve practice”. The set of procedures and principles adopted in the education-investigation that this text seeks to describe and reflect is close to the characteristics of action research, of pedagogical nature and linked to a critical approach. In Franco’s words (2014, p. 219), “the critical approach of action research commits both to the production of knowledge about social reality and to its transformation in an emancipatory sense”. In other words, as research “it implies rigorous construction of knowledge”, while as education, “it implies active participation of the subjects of practice” (Franco 2014, p. 218).

The author stresses the need to consider some basic conditions in the dynamics of action research in order to fulfill its formative and investigative role. She lists five categories: contract, participation, change, discourse and action. The *contract* must be open, dialogued, negotiated, in order to overcome the rigidity of research, determinisms of the researcher and subjection of the researched ones. For this reason, “it requires processes of involvement, motivation, learning and discipline”, which “are being built on the teacher and that, certainly, will be re-signified and worked in their daily practice” (Franco 2014, p. 220). Although the category of *participation* is still a practice distanced from the paths of teaching action, it is “fundamental that teachers, in the process of action research, overcome the positions of applicators, reproducers and build knowledge in the direction of negotiation, of valuing one’s own knowledge, of collegiate participation” (Franco 2014, p. 221).

The *change* is another basic category in action research, because “when experiencing changes, the participant subject of an action research begins to feel and to perceive him/herself as protagonist of processes of transformation and self-transformation” (Franco 2014, p. 221). This is a process of construction and deconstruction that confers the character of mutation in educational identities and practices. As a result of this movement, the teacher is given the opportunity to “value and express his/her knowledge of experience and link them to the collective, socialize them, and refer them to new presuppositions of change” (Franco 2014, p. 221).

The *discourse* category is equally challenging, since “we are not normally accustomed to a dialogic and symmetrical relationship in communication”. The indicative of action research “presupposes consensus, sharing, intersubjective communication”. It is through the “construction of objective forms of communication, oral and written”, through the collective writing of the products that communicate the processes, that the possibilities for structuring and socializing the knowledge produced are created (Franco 2014, p. 221).

The point of arrival is *action* itself, the fifth basic category of action research dynamics, associated with a “shared, group, collective, community” nature (Franco 2014, p. 221). To Franco (2014, p. 221), “an action that is reflexive, in the sense that it adapts and becomes flexible with the requisitions of the new that emerges at every moment, is a dialogical action that challenges discourse and induces changes, it is a critical action that looks at

itself and gets reorganized, requiring a spiral of revisions that reorganizes thinking and re-reflection". The author adds that "the exercise of these actions requires and produces knowledge. We are not used to working in groups, let alone collectively". School cultures crystallised in individual teacher work and classroom architecture in the "one after another" model are shaken with this education-investigation format. According to this author, "action research, in order to be effective, needs to reorganise scenarios and mechanisms that build the capacity to work together, the willingness to share with and for the collective. There is no *praxis* without the knowledge of collective coexistence" (Franco 2014, p. 220-221).

Concepts of reception and appropriation: support to observe conceptual evolution

Given the descriptive and reflective richness of the collection under analysis, the task is to *follow the evolution of the teachers' conceptions* of each research group formed by each school, explained in the texts produced collectively and posted in the VLE. The narratives constructed and inscribed in the electronic support with the use of the virtual tools allow to observe the elements that *emerge*, that are *repeated* or that indicate *displacements* in the ways of looking, narrating, analysing and interpreting the daily life observed in each research project constructed. The aim is to look at the discourses, to trace the signs of transformation of reality, having as analytical support the concepts of *reception* and *appropriation* developed by Roger Chartier.

The appropriation, as the author explicitly states, "has as its objective a social history of interpretations, sent to its fundamental determinations (which are social, institutional, cultural) and inscribed in the specific practices that produce them" (Chartier 1990, p. 26). As Chartier (1990) asserts, works do not have a universal, stable meaning; it is in the relation established between the text, the support that gives it visibility and the practice that perceives it that the possibilities of assigning meaning to these cultural objects are appropriated by different publics.

In accordance with Chartier's theories (1990, 2009), we acknowledge that reception is not passive, rather it is itself a form of production. This means that the different publics that reach the works: in this case the teachers in training, carried by different supports, under specific conditions of reception, discover in them, or to them they attribute, varied, plural meanings.

However, it must be considered that if, on the one hand, it is possible to argue that reception is creative and does not yield to the protocols they try to impose, to fix a meaning to what was read, on the other hand, freedom of the reader is not free of restrictions either: "it is surrounded by limitations derived from the capacities, conventions, and habits that characterize, in their differences, reading practices" (Chartier 2009, p. 77).

Education-investigation: action research and research in the classroom in dialogue

In this section, it is necessary to describe the methodological pathways involved in the education-investigation developed in the course, that promoted the dialogue between action research used in teacher education and research in the classroom as a teaching methodology. The education-investigation scenario, the affected subjects, the resulting outputs and the empirical data analysed are detailed.

The contact with the field of education-investigation and the establishment of “contracts”

The education-investigation project dealt with in this text started with the contact of the pedagogical assistance of the Education Department of the municipality investigated, to carry out a project of continuing education with all the teachers of the five schools of the network of education. Among the objectives that led to the search for pedagogical support of the professors-researchers from the University, was the desire to promote an education oriented to the use of active teaching methodologies, in order to provide new practices that motivated and raised the levels of learning of the students.

Considering that we are subjects involved in this training, we agreed on the development of the work based on the research in at least two dimensions: (a) as a pedagogical tool, that is, as teaching methodology; (b) and also as a way of reflecting on the practice. Based on Demo's (2015) guidelines, the proposal involved in the first phase *the research on the teacher* in order to, in a second moment, potentiate *the research on the student*. The project provided for an extended training period of at least one academic year, about ten months, so that the participants of the training could implement the practices acquired during the course, as active members of the whole process and accompanied by a team composed of researchers-educators. This procedure intended the triggering of autonomous practices as the unfolding of the education process.

Thus, the *initial contact* became a *contract* anchored in the Project “School and research: a possible encounter”, which was already part of the catalogue of extension courses offered by the University, but without having involved in its scope research on the process experienced, associating education-investigation, carried out in two phases³.

Phase I: Research on the teacher, was developed in the first half of 2015. During this period, the education-investigation team and 142 Elementary School teachers in training of the public network interacted in face-to-face and online meetings, counting on the support of VLE tools in the Moodle Platform, totaling 40 hours. The participants of this phase were

3 For this paper, we use only the Phase I data of the project as subsidy for analysis. Phase II, considered “research on the student”, was developed through the Project *School and Research: a possible encounter*. This phase involves the construction of interdisciplinary projects with the fourth, fifth and ninth grade of Elementary School, totaling ten projects, 42 participating teachers as mentors-mediators of the projects developed with the students and 202 participant students, between 9 and 17 years old. However, our objective of analysis in this text is Phase I: “research on the teacher”.

distributed in five municipal schools of the mentioned municipality, one of them being characterized as a field school, another as a full-time school and three regular and diurnal Elementary Schools.

The composition of research groups and writing as mediator of interactions

The teachers of the Phase I involved in the education-investigation process were linked to five different schools. Each school composed a research group with its faculty and was challenged to build, develop and systematise a research project on their own daily life. The research project planning stages⁴ included support materials, videos, complementary reading texts, guidelines for all stages of planning, execution and systematisation of the results of the research projects constructed.

We emphasize that collective moments within the entire municipal network and in the group of each school took place throughout the training, involving sociability and fraternisation, videos and lectures and, mainly, discussion and reflection around the theme that each school defined for the research. A teacher educator or a pair of teacher educators followed up on each school and a pair of co-ordinators followed up the training procedure. The reflections unleashed in the face-to-face moments, with the presence of the educators, had continuities in moments of online mediation, through the discussion forums made available in VLE. There was also a link to a Virtual Library, containing texts that nurtured the discussions about the methodology as object of the training, the teaching performance and the contemporary school experience and the themes of each project. Many reflections were carried out in the space of the school, accompanied by the directive and supervision team, whose products were posted in the VLE of the course.

The follow-up of the mediation process provided by the teacher educators, which took place in a link called the “Meeting Room”, was carried out by the course co-ordinators, strengthening and challenging them to problematise the explanatory limits that each school group recorded during their own research project and subsequent stages, in order to advance in the common sense narratives drawing from dialogue with the data that emerged from the field work, and from the suggested readings in the scope of the education process, as well as others sought autonomously by the group.

The texts originated in each research group hosted multiple versions and interactions coming from the diversity of conceptions that made up the research group of the school and also welcomed some provocations made by the teacher educator (or pair of educators) assigned to each educational unit.

Thus, the collection that offers the preliminary analyses that we bring in this text, and that makes up the database of the education-investigation, is composed of the following

4 The research project developed in each school was guided by the following stages: (a) collective construction of the project based on mobilising questions; (b) collective construction of a research instrument; (c) conducting fieldwork and ethnographic records on the process; (d) organisation, description, analysis and interpretation of data constructed in the field of research; (e) systematisation in the form of a paper and presentation of the results of the research project.

materials: research projects; data collection instruments; tabulation of results; slides with presentations of results synthesis; partial and final reflection of each participant and the educators; dialogues established in the forums of discussion and in the boardroom of the educators; scripts of the meetings, didactic materials with the orientations of the stages of the research project; supporting texts and videos; papers with the description of the process and communication of the results.

The research on the teacher: concerns of daily school life reflected in research project

As mentioned previously, each of the five groups, one per school, collectively constructed a research project, whose stages were mobilised to search for answers to the following questions about the challenges of daily school life and contemporary teaching: What do we want to know about the subject of our research? What do we already know about the subject we want to research? What do we want to clarify with the research on this topic? What hypotheses do we have on the subject? What information already exists about what we want to research? What are the different aspects involved in the topic of our research? What do we intend to do with the results of our research and to whom they will be disclosed?

When the questions were answered, with the ideas coming from the school's research group gathered and the different points of view agreed, the constituent elements of a research project took shape. It should be noted that more than the product materialised in the text of the project itself is the importance of the process of discussion, reflection and participation unleashed and explicit in different textual supports and genres: minutes of the school meetings, discussion forum and link of the activities of the course VLE, oral discussions and records made in the face-to-face training meetings, among others.

The research process and results were systematised in a paper and presented at a seminar with the participation of all teachers, teacher educators, project co-ordination team and the education secretariat, as well as guests to discuss the results. The research themes defined in each school were as follows:

- **School A Project:** Right to learning: expectations of students' families.
- **School B Project:** School B Students: diversity in movement.
- **School C Project:** Interpersonal relations of School C: the students' view.
- **School D Project:** Full-time school: influence on students' cognitive and behavioral development.
- **School E Project:** The role of the school community in the face of the (dis)interest of the students throughout the Elementary School.

Many hypotheses were formulated within each subject, and research projects developed by the teachers of the five schools involved in the education-investigation. Part of these hypotheses referred to families and students as scapegoats of learning difficulties evidenced in the school paths of children and adolescents. Another set of hypotheses, however, showed an analytical maturity of the teachers' group regarding the role of the school and teachers in promoting citizenship and transforming reality. Some of these hypotheses were:

- The Pedagogical Master Plan is not in accordance with the reality of the school community.
- Pedagogical practices may be distant from the needs of students and the expectations of family members.
- Students are not concerned about life in the long term, there is a lack of perspective with their own life and education.
- There is a great divergence of conceptions about the importance of learning and school.
- The majority of the students come from rural areas, however they present urban habits and have different experiences out of the classroom.
- It is difficult for students and teachers to live alongside each other due to diversity in school.
- Teachers and students are distant in their languages and interests and, therefore, their patterns of relationship are in conflict and they damage the rapport.
- The family commitment to their children's education is hampered by their parents' overworking and the little time spent in a family environment.
- The school assumed functions that were once taken by the family nucleus.
- Professionals who disbelieve the changes adopt the same attitude of students, family and community.

It is perceived, therefore, that the project titles, the problem and the hypotheses express the teachers' concerns about the daily school life, and turn to an exploration for the causes and challenges faced outside the teaching activity that, according to understandings expressed in the education-investigation, affect it directly or indirectly.

Faced with the descriptive and reflective richness of the previously mentioned research collection, the challenge is to *follow up the evolution of the teachers' conceptions* of each research group formed by the school, explained in the texts produced collectively and posted in the VLE.

The narratives constructed and inscribed in the electronic support with the use of the virtual tools allow us to observe the elements that *emerge*, that are *repeated* or that indicate *displacements* in the ways of looking, narrating, analysing and interpreting the daily life observed in each research project constructed. The aim is to look at the discourses, to trace the signs of transformation of reality, having as analytical support the concepts of *reception* and *appropriation* developed by Roger Chartier.

In the wake of conceptions, the signs of transformation: echoing the results

In this section, we focus on the analysis of the texts that communicated the process and the results of the research conducted in each school. We observe the reliefs and absences as indicative of the meanings attributed to different moments of the process. We seek indications of a possible reflexive movement, provided by immersion in the field of

investigation. For this task, we consider each of the texts produced by the school separately.⁵

Analytical categories: the emergence in each school

Our analyzes are anchored, as already mentioned, in Franco's (2014) theories in observance of the same categories of action research that became, under our gaze, on the occasion of this study, analytical categories. It is from these that we sought, above all, to discover indications of a movement of reflection and possible transformation of teaching practices in the school context and we looked at the implications of the practice of research in the classroom. Thus, the first category deals with the anticipations, findings and surprises with the research in School A. The second category highlights the doubts, conflicts and reflections about the pedagogical praxis in School B. The third category characterises the praise to the objective of the investigation approached by the School C. The fourth category addresses the investigative path imbued by the reflection of the subjects of School D. The last category reflects on the identity of the space investigated under reflection of the participants of the School E.

School A: anticipations, findings and surprises with the research

Teachers who participated in the research experience appear to be, considering the text of the paper, enthusiastic and even surprised by the results achieved: *According to the results found in the research, there is a valorisation and involvement of families with the school and learning, but that is different from the expectations that teachers and the school had regarding families.* Practicing the research allowed them to *think about the school in the collective; involving teachers, managers and families, was a formidable experience that generated necessary and urgent discussions*, the teachers wrote in their final paper.

In the first lines of the text *Right to Learning: Family Expectations of School A Students*, teachers announced that the extension course "School and Research: a possible encounter" brought an innovative proposal that allowed a reflection and investigation of our reality, and this idea is reiterated in several parts of the text. What drives the study of teachers-researchers is the desire to know how families perceive the role of the school. These teachers, until the time prior to the research, clearly point out that the students' lack of interest in school education was linked to the expectations and perceptions that the family nucleus, to which these students belong, have of the school. Once the research had been carried out and the empirical material analysed, this hypothesis was not confirmed, and it is with some surprise that the teacher-researchers concluded that *the students' lack of motivation regarding their learning is not related to the parents' devaluation of the school, a hypothesis previously raised by the group.* However, the idea of student disinterest is maintained and generates a new questioning: *If the source of this disinterest is not fed by the family, who is feeding that feeling?*

5 In the text that follows, we will use highlights in italics for the transcriptions of the writings of the teachers participating in the training course.

Once one of the main investigative hypotheses was overturned, the group needed to reflect on the practice itself and, as it seems, to put itself in question: *It is time to look inside the classroom for our methodologies and perhaps find possible answers or new ways.*

As for the legacy of the course, in the records of the participants of this school, a mention of the strengthening of the community as a result of the journey is made: *We may not find all the answers to our school problems, but we have reached a good result as a school group (...). We began to listen to each other; "Collective thinking" for me was one of the great achievements of our school.* However, the sharing of tasks does not reach the whole group, *since it is very difficult to gather all teachers and to affect all to participate in the activities*, one participant evaluated.

These statements lead us to one of the categories of the dynamics of action research, determined by Franco (2014), which is precisely the *action* itself. Teachers practicing research share ideas, produce collectively, perceive themselves as a group beyond discourse.

School B: doubts, conflicts and reflections on pedagogical practice

The need to know who the students that constitute the school are motivates the research whose results are expressed in the text *Students of School B: diversity in movement*. Initially, it is necessary to say that we perceive a certain imprecision as to the object of study of this group since it transits between *investigating the reality in which the students live and interact* – sometimes with reference to the teachers as well: and *who the students that are inserted in School B are*. However, at that moment, we consider the existence or not of a reflexive movement in the study covered during the education process that can be perceived from the written discourse.

According to the participants' reports during the writing activity called "partial reflection", the process of collective construction of the research was not always easy: *from the moment to reconcile a common theme, after the elaboration of the questions and their application; it became necessary for the good sense of the group and even a reconsideration of values of the good coexistence.* Having overcome the initial moment of delineation of the investigation object, a moment permeated by doubts and conflicts: according to the words of one of the participants, *the doubts and the conflicts that preceded the choice of the title for our project were valid, since the group had different visions of the problem in question*, the uncertainties about the results of the research arose: *But I wonder, will we really have the answers to what distresses us? What guarantees that our experiences do not interfere in the interpretation of the research, thus diverting from its essential purpose that is to know the reality of the school universe in order to turn this research into a tool of work.*

It is perceived that the research experience brought tranquility to the group, at least in relation to the reach of the results. Thus, in the final text that discloses the findings of the research, it was recorded that, *after the analysis and interpretation of the data that showed us the voice of the students, we were able, very clearly, to answer the guiding question of our research: "Who are the students which currently belong to School B?"*. In response, the group formulated the following hypotheses: *Most of the students come from the rural area of the municipality with habits of urban areas, but there are also those that come from*

different localities and also with different cultures and customs. Not all students have access to the Internet due to lack of signal or financial resources. There is also a disparity of teachers' knowledge about the reality of the students, since they also come from different localities, with different cultures and customs.

These results, although simple, make us think of the practices, since knowing the profile of the students of the school and realizing that the difference and the socio-cultural diversity is part of the daily life, both in the teachers' group and in the students' group, requires thinking about the to-do modes exercised so far, even if initially this is evidenced only in the discourse that informs that *this whole process allowed us a broad reflection on our pedagogical practice*. For these teachers, in the presentation of the results of the research, the great surprise was that they thought that the students did not like school and teachers; however, it was necessary to organise a listening instrument, listen to the students and realize that they not only have a strong sense of belonging to school, but also recognise and value the work of the teachers. From this discovery and the deconstitution of a prior judgment, teachers announced a new practice, of less dispute and judgment in the pedagogical relation. Thus, the following question emerged: To what extent does this displace practices and re-establish the pedagogical relationship?

School C: praise to the object of investigation

Interpersonal Relationships of School C: the students' view is the text that resulted from the investigation of the group belonging to this school. The research was undertaken with the objective of *understanding how the students of School C have perceived the constitution of the interpersonal relations in the school environment in different segments and also out of them*. However, this research space sometimes appears, in the writing, limited to the space of the school, without any further references. There is, therefore, in the construction of the object certain disparity between the question of research and what is announced as intended to achieve with the research. Moreover, considering the work as a whole, it can be said that teachers did not stick to the theme announced for research, but they distanced themselves from the object investigated and the questions addressed to the empirical subjects, widened the focus of the gaze and reached other objects of the school context.

In the course of writing, the text that discloses the results of the research takes a laudatory and descriptive character, before getting analytical of the school reality and the subjects of the research. The familiarity and proximity of the teachers-researchers with the investigated object, the look from the inside, leaves their marks in the text. This characteristic hinders the perception of a reflexive movement triggered by research, since what is most noticeable in writing is the detachment of the potentialities of that school context.

There is an immense pride of the school C community: parents and students, teachers and community celebrate together the results achieved, because the school has become synonymous with quality and success. It is not difficult to perceive in this passage the inscribed representation that, finally, guides the teachers-researchers' look and aims their appreciations for the investigated object. We take as an illustration the analyses made from one of the questions addressed to the students, empirical subjects, regarding school failure:

As for the question “if they failed a school year”, the vast majority of students did not fail the school year (123 students – 87.2%). We found that some students failed due to learning difficulties and others were transferred from other schools and, consequently, could not follow the content and methodology of the teacher’s work. We consider the percentage above a merit of working together, family and school.

Of the total number of students interviewed (141), only 18 students failed a school year once. We know that many of these cases are due to external factors such as transfers from other schools.

As shown in these parts of analyses, for the percentage of approval there is no indication whether the students always belonged to the school in question, nor whether the disapproval occurred when the student attended that school or another, and the index reached is considered *a merit of working together: family and school*; the failure that occurred in one of the school years, which is not specified, is attributed to external factors: the students who have already failed have come from other schools.

However, the researchers-teachers wrote that the investigation has *led to a new question: Is the pedagogical methodology used in School C helping in interpersonal relationships within the school?* This question, to a certain extent, is not surprising, even though, we questioned ourselves: What is the reason for this new question if, as announced in the analysis, the results are unquestionably positive? In any case, the questioning that emerged indicated evidence that the investigative practice led the group of teachers to reflect on the ways of doing things on a daily basis, situated in the school environment.

School D: investigative walk marked by reflection

What is the influence of the full-time school on the cognitive and behavioral development of the students? This is the research question of the group of teachers of School D, whose results are presented from the text *Full-time school: Influence on the cognitive and behavioral development of the students*. By undertaking the research, the group intended to perceive the positive and negative aspects of this teaching modality and present a proposal for its restructuring, based on the findings achieved.

Once the investigation was concluded, some initial hypotheses were confirmed, others were rejected, whereas, regarding other hypotheses, it was not possible to reach a result with the questions asked, thus *further research was necessary with the students and also with the parents of these children* to reach a more precise response.

Given these confirmed results, it is our interest to know what was maintained and what was abandoned by teachers during the investigation, considering the results achieved. The idea that the parents attributed to the school a sense of *caring* institution for the modality of functioning is abandoned given the answers obtained, because, according to the parents surveyed, *the school was a great place to leave the children while they worked and, at the same time, they had an institution with quality education for their children*. The hypothesis that is established as one of the main motivators of the investigation: that full-time permanence could result in emotional loss due to the family’s prolonged distance between their members was also not confirmed.

The fact that *in terms of cognitive learning the students revealed that they had learned little by attending the full-time shift, confirms one of the initial hypotheses and leads the group* to the perception of the need to change the activities carried out in the pedagogical workshops offered in the school in the extra hour classes compared to the regular teaching: *Drawing up the proposal of restructuring, in the full-time shift, we intend to have a closer look at the activities carried out in the workshops. For the relation between the behaviour, attitudes and the permanence of full-time students in the school,* the research instruments used, in the evaluation of the group, do not allow the achievement of what was sought and, therefore, further research is necessary.

The whole construction and enclosure trajectory of the object of study is marked by the reflection of the group that leads to a movement not only to change pedagogical practices, but also to the restructuring of full-time education in the municipal teaching network of the municipality where it occurs.

School E: the identity of the space investigated under reflection

The interest or disinterest of the students of School E facing the process of teaching and learning is what drove the investigation of this group and resulted in the paper *The role of the school community facing the (dis)interest of students throughout Elementary School*.

The question of research was originated, as said by the teachers, *from the difficulty found nowadays regarding apathetic and little argumentative students*. The main argument was that, *over the course of the years, it was possible to perceive that the students of School E were losing interest in the studies*, implying that the loss is greater as the years of schooling advance, as well as the chronological age of the students.

The results obtained with the research promote a reflection about the necessity of identity affirmation of the school, with respect to its characteristic that is of being constituted in a school located in the fields. As perceived by the group, the Pedagogical Master Project does not contemplate its reality. Thus, the reflexive process triggered by the investigation makes the teachers realise that the school in which they work is characterised by its location, that is, in the field and not by its modality of the field.

The idea of the students' lack of interest in the offered education, as it seems, is not abandoned, although the students point out in the interviews, and the teachers recorded in the final text, that *the acquisition of knowledge* is the main reason why they attend the school. However, the hypothesis that the parents *did not encourage their children in relation to the studies* is not confirmed, because the results indicate that *the parents encourage their children to study by helping them and providing the necessary conditions for the accomplishment of the tasks*.

The research practiced from the interior, from the known, from the lived, requires not only an effort of detachment and estrangement from the investigated object, but also a watchful eye *to observe every detail of school's daily routine, from the most varied points of view*. In addition, it generates expectations for the teaching work as it can be observed: *I hope to have to hand rich material for reflection and growth of the group of our school*.

Indicative movements of the reflection on the practice itself

Going through the texts produced by the teachers' groups, we sought to do it in reverse, to find the steps practiced by them in the process of constructing the research. More than the published results, we were interested in apprehending the indicative movements of the reflection about the practice itself, triggered by the action research: indications of transformation on both the ways of *doing* and the ways of *seeing* the school context.

In their writings, there certainly is the announcement of reflections, propelled by the very dynamics of research. But is it necessary to wait for the second phase of this study to verify whether this change occurred or not? Cautious about the possible changes brought about by the research experience, we return to Franco's tessitures (2014, p. 231) when the author warns us that "[...] subjects do not change by decrees or by the will of others. People change when they realise that change will be good and possible. The subject of practice only transforms his/her reality when he/she can look at this reality through different eyes, that is, when he/she has transformed the form, the conceptions and values about reality".

The analysis of all the texts, since the preliminary versions of the research projects throughout the final paper, finds evidence of a lack of familiarity among the teachers (surely not all of them) with respect to the research practice, especially evidenced in the construction and enclosure of the object of investigative attention. From their interlocutions, established in writing with the researchers-educators, in the discussion forums or in the partial and final reflections, it was found the teachers' concern on how to do their own research as well as the research that will be developed with the students. However, when the observation focuses on texts that disclosed the findings of the research, it is noted that how to do it is a concern left behind. At this stage of the process, teachers turn to the results achieved and are absorbed, or rather surprised by their own findings. And it is in this trajectory, that comes from the first discussions to the results found with the investigation, that the teachers show, albeit sensibly, the emergence of a reflective look at the practice itself. But sometimes this view turns more broadly to the school context, which, being so familiar to them, escaped them to a great extent (although it is still not all apprehended).

It seems that it is the unimagined results, the unconfirmed hypotheses in the course of the research that surprise most and trigger more clearly the processes of reflection on the practice, about the school context that has become a stranger in front of what is supposedly known.

Writing as a mediator in the displacements of conceptions

The constructed texts deal with collective productions and are forged, at least in their initial versions; from the VLE and the Wiki6. In this way, those who read also write their idea with authority to make cuts and additions. With this, the text appears on the electronic screen from several different hands, eyes and skills. The text inscribed in the electronic support allows, therefore, interventions of each one that appropriates it, in the same body of the text,

6 Wiki is a tool that allows users to create a collection of documents, collectively.

without distinction between author and reader. Only identified by the different colors chosen by the participants to insert their ideas, when the text is published, it reaches the participants of the research group of the school and captivates the mediator gaze of the researcher-educator. Therefore, it is on the computer screen, in the electronic support, that the texts in question are produced and read, read and produced, appropriated, in a movement that involves each and every teacher in each group of the schools. That is, the texts are based on the findings of the research, but permeated by the different interpretations and understandings of its producing readers and the specific conditions of its mode of reception and production. Initially antagonistic ideas go through discussion and argumentation. Some are abandoned, others enter into consensualities. It is in this movement that the reflection happens and that some conceptions move, not without conflict, because the collective work demands negotiation, resignation and delivery. In the reflective writing of the teachers in training, we found reports of this experience of writing constructed by several people:

We started from a collective work that involved the construction and the collaborative writing, a moment when there were many divergent opinions, and it was necessary to promote the listening of oneself as well as the others.

My biggest problem was to put, to describe in the “collective” text. At different times I tried to do my textual intervention, but I did not feel so comfortable writing my own way in this research.

I found it difficult to carry out the construction of the texts collectively, because we have different opinions and writings, which, in my opinion, caused a text that often lacked coherence or continuity.

However, I found some difficulties in carrying out the construction of the text collectively, because having different opinions and different forms of writing, brought a lack of clarity and coherence in the text.

Aside from the difficulties with collective production, it is noticed that there is, from the part of the teachers participating in the project, a declared embarrassment with the necessary procedures for the development of the research and the intervention of the texts in production. The teachers' lack of familiarity is indicated in the construction of the research object, by the instability that crosses the texts regarding the question of research, by the disparity between it and what is announced as intended to be achieved with the investigation, by the lack of definition of who the empirical subjects are, by the fragile, if not dispersed, manner that surrounds the focus of research in the produced texts. However, this does not mean that all productions individually present all these frailties. Considering this analysis, which has as the main focus the texts produced in Phase I of the education-investigation, we can therefore talk about a timid familiarity of teachers with the practice of research itself and with the treatment of information, coming from different sources, for example, the voice of the project's authors – the teachers, the theoretical interlocutors and the empirical interlocutors.

As for the texts resulting from joint writing, sometimes lacking in clarity, in which a finer articulation between paragraphs is absent, with the use of citations with dislocated or distorted meaning, derives from the way of doing, from the form of writing practice that is

collective and authorizes, or rather, calls for interventions; which encompasses the particular interpretation of each author-reader, but which is also more or less shared by the group, since, considering Chartier's theorisations (2001, p. 20), "each reader, from his/her own individual or social and historical or existential references, gives a more or less singular meaning, more or less shared, to the texts from which he/she appropriates".

The discourse inscribed in different supports and from different textual genres

Whatever the modality in which education-investigation, face-to-face and/or online happens, participants are required to use virtual tools to reach the materials, both for the dialogue with the researcher-educators and for the production of the texts. Therefore, the initial experience with research in the words of one of the participants, *an essay for the work to be developed later*, also implies the relation *with* and *from* the virtual environment.

Taking into account these circumstances, it is interesting to note that the use of communication technology is pointed out by some participants as a limiting factor, either because of the difficulty of access, as this testimony demonstrates: *I only feel sorry for not being able to participate more online due to my conditions: no possibility to have Internet access*, or due the fact that its use requires certain skills by the users:

I think we've all had a bit of trouble starting to interact with the Moodle tool, because it's not part of our everyday life.

At first it was a bit difficult to get familiar with Moodle; but slowly I am getting along.

At one point, the communication tool made this time [the time available for carrying out the activities according to course schedule] even shorter.

I must say that it was never a lack of will, firstly that we are always running out of time, and secondly because I could not access everything that was posted, since I still cannot access media with ease.

On the other hand, the use of virtual tools is pointed out by some teachers as one of the learning experiences considered positive in the course, which, finally, does not distance itself from the questions that involve its use as already mentioned previously. The testimonies of the teachers in training point to the advances made in these virtual tools: *firstly, I learned to deal with the online system, through NEAD⁷ – forums, etc.; during the process of education offered in the course "School and research: a possible encounter", there was a lot of learning acquired. Among them I stress the tools used (information and communication technologies).*

That being said, it is worth remembering that not only the texts that constitute the VLE virtual library of the course are accessed from the electronic support, but also the texts produced by the groups are inscribed on the computer screen (such written production was discussed previously). And these texts, both those intended to be appropriated by reading

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and those produced by collective writing, are recommendations agreed upon in the education-investigation.

Reflective discourses, announcements of transformation?

All of the education-investigation schedule was focused on two perspectives. One of them dealt with the experiences of the procedures on how to work with research in the classroom as an educational principle. The intention on the other perspective was to contribute to the awareness of the pedagogical and political value involved in the work that has the question as a starting point. It is perceived that reflection on the process was stimulated, as a way of approaching what Freire (2014, p. 39) considers essential: “critical teaching practice, implying right thinking, involves the dynamic, dialectical movement between the *doing* and *thinking about the doing*”.

Based on the reflections of the participants, interspersed in the texts produced, in their “thinking about”, aspects that indicate the appropriation of the principles pertaining to education-investigation through reflection and also mobilization in search for the transformation of practices identified as applicants of change emerged.

One of the merits highlighted in the participatory process experienced in the education-investigation was to trigger the “encounter” and the “collective reflection” within the school, even though in some cases the teachers have scored the difficulties of doing this in the group due to differences in conception, postures and motivations. In contrast, in several narratives there are references to “our group”. So we can ask whether the “group” belongs more to the discourse than to the practice, or does it belong to the discourse only? Perhaps, the practice of the teacher in the school is a practice not shared with the group; a practice that is characterized by individuality. However, the mobilisation for the school to think about its daily life adds meanings to “collective thinking”, considered as one of the gains obtained in the education-investigation in one of the schools, with the affirmation that they might not have come to find all the answers with the research, but came up with a good result “as a school group”.

This is an important element to be considered in everyday school practices, because, if learning to live together in diversity and respect for difference is still one of the challenges of humanity, then group work is one way to begin this kind of learning. If teachers do not know how to work together, they will have more difficulty to divide and share with among their students.

The dialogical dimension that emerges in the lived experience also indicates the value attributed to the listening of the school community and the expectation created in knowing their opinions. This only reinforces how much the dialogue provokes the encounter, the reflection, the deconstruction of prejudices and *prior* judgments. Many teachers pointed out that they were surprised by the answers and by what the students think of the school, in a much more positive way than they imagined.

Although not directly, the reflections inscribed in the texts produced underline the importance attributed to listening and to the relationship, as a way of contemplation and an attitude to be cultivated to take care of the relationship. Observing that students have more

positive representations of the school than those assumed *a priori* is a way of deconstruct-deconstructing prejudices and bringing the pedagogical relationship closer, therefore, it constitutes embryos of possibilities for change.

Regarding the challenges of working on the Moodle platform, whether due to the lack of access and/or easiness to deal with and expose themselves in the VLE, as well as the lack of time of these subjects, we identified the destabilisation of the *already known* towards the *still to know*, not for a change in the attitude of distancing Information and Communication Technologies (ICT) immediately, but to raise the doubt and the curiosity to approach them.

The promises of continuity were signaled in meeting the demands that emerged from the results of each project or in the mobilization so that the research is part of the daily life of the school. The incompleteness dimension was evidenced by the involvement of many teachers with the complementary readings and with the theoretical foundation suggested in the training, emphasizing that they were nurtured by the contents of the texts and the videos indicated.

In general, the contract, initially established between the University and the Department of Education, between the secretariat and the schools, and also between the education-investigation team and the participants, seems to have been understood and accepted by the majority, with rare exceptions of manifestation of incomprehension of the proposal and desire not to be part of it.

Although not fully aware or named in the words of the participants themselves, it is possible to identify embryos of didactic transposition⁸ and inverted symmetry⁹. Evidences of this are indicated in the experience of the construction, development and systematisation of the results of a research project, working with significant themes for the group as a whole, and in the course of which many skills were developed: learning in group work; collective discussion on controversial points that add different points of view; systematisation of ideas through the collective; assumption of attitudes of respect to schedules and guidelines; learning about the treatment of information based on different sources; writing improvement, qualified with the confrontation of the readings; promotion of the encounter even at a distance; sheltering the intervention of the researchers-educators as partners and co-authors during the process; assumption of authorship, ethical and aesthetic posture, on the presentation of research results, among other points that could be listed. They are expected to be part of everyday life and reach out to students and the community.

Final considerations

By challenging teachers to observe the reality in which they work, a process of awareness is sought for/on the new educational scenarios of the 21st century. Teacher education based

8 Didactic transposition can be considered the passage from wise knowledge, from the knowledge produced by scientists to the taught knowledge, characterized by the use of books, tools and didactic resources among others, according to Chevallard (2005).

9 According to Oliveira & Bueno (2013, p. 877), the basic assumption of inverted symmetry is “coherence between the training offered and the expected practice of the future teacher”.

on research in the classroom as teaching methodology destabilises the cycle of an apparent passivity that circumscribes school and teachers in a logic of reproduction rather than transformation. Reviewing Certeau's (2011) writing, which states that practices are inventive, not passive, perhaps reproduction is a tactic of teachers. But for what? Perhaps to maintain a system that, despite the discourses (and the results) that put it in a state of crisis, is strong enough to go on for centuries.

The classic attribution to the absence of the family and the engrossment of educational policies such as the great villains of the impossibility of change, only reinforces immobility in search for solutions to overcome the problems signaled in the reading they have made of reality. In other words, sometimes it seems that teachers become hostages (or use their own discourse for the maintenance of the created representation), of the content of their own discourse, because, by reinforcing the difficulties to cause a change, they also immobilize and block actions in the direction of transformation.

In this sense, it is important to be vigilant that, beyond the method that instrumentalizes the use of an active methodology, central point of the established contract, the powers of the dialogical exercise triggered in the experienced investigation are found. Nevertheless, this does not happen naturally and in the totality of the participants. We can say that the movement of knowledge and analysis of reality that the research offers has phases or different dimensions of awareness that: (a) go from the identification/investigation of what worries and considers to hamper the teaching action present in the explanatory limits of teachers about their performance scenarios; (b) go through the reception modalities and the process of appropriation of the teaching method, object of the education; (c) until they slowly approach the analysis and interpretations of the phenomenon or theme they have chosen to analyse.

According to Freire (2014, p. 33), it is fundamental to overcome the naive conscience that is generally "[...] associated to the common-sense knowledge [...]" in order to be based on the epistemological consciousness that also arises curiosity, however, a critical curiosity that approaches "[...] in an increasingly methodologically rigorous form of the knowable object [...]" thus becoming the epistemological curiosity. "Overcoming and not the rupture occurs to the extent that the naive curiosity, while still being curiosity, on the contrary, continuing to be curiosity, is criticised (Freire 2014, p. 32).

The experience of education-investigation narrated in this text suggests how difficult it is to exercise the passage from naive to epistemological consciousness through criticality. However, the perception of these gaps requires the training team and the participants to look attentively to make these "consciousnesses conscient". We can say that the naive consciousnesses is shown by the expression of the word and by the attribution of meanings to justify the causes of what is restless and uncomfortable in the daily life of the teaching activity. Critical consciousness, on the other hand, could be associated with the surprises found in the results of the projects and the lack of corroboration of many of the hypotheses formulated for the attribution of the "scapegoats" on the challenges of the contemporary school. The almost remote echoes of the epistemological consciousness can be associated with the narratives produced in the "thinking about" and in the substantiation and validation of the thought and the named with the words, through the interlocution with the theory and with the subjects implied in the analyzed phenomenon. These perceptions show Franco's

assertions (2014, p. 231), because “consciousness does not always follow practice. Sometimes this consciousness bothers us, and we prefer not to touch it”. The author complements by assigning to the action research processes the possibility of “putting practice and consciousness together, mutually giving meaning to each other” (Franco 2014, p. 232).

Returning to the categories necessary for the basic dynamics of action research, observing the path covered in the process of education-investigation here narrated and analyzed, we can also say that: (a) the *contract* was established on at least five levels, that is, between the secretariat of education and the education-investigation team, the secretariat and the schools, the schools and the teachers, the teachers themselves, and the education-investigation team with the teachers; (b) in relation to *participation*, although the course had a program and a directivity, the process involved an intense participation of the research groups, conferring authorship to the productions and reflections undertaken, in partnership, co-management and cooperation; (c) in the *change* category, the discussion around an umbrella theme involving the daily school life, sheltered the interests and curiosities of the participants, made the appreciation of the perceived in each contribution and indication of changes from the discoveries possible; (d) the *discourse* was stimulated to the expression in different supports and textual genres, imparting a movement that suffered displacements fed by what emerged from reality and also from the articulation of the different sources of information; (e) finally, the *action*, although with the limits of the visualization of practices, it is shown in the ads from the discoveries.

These elements also allow us to associate that the education-investigation in teaching can result in ruptures in “[...] technicist conceptions of teaching, generating the possibility of re-signification of the relations between theory and practice, which can become an important movement in the collective struggle for better working conditions and for reconsideration of the importance of the knowledge produced by teachers” (Franco, 2014, p. 232). And this reinforces the argument of the importance of action research to develop a critical perspective of teaching action, especially, when executed in the action itself.

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