

# Evolutionary learning in teachers' education: continuity between the certainties of action and discursive arrangements

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## ABSTRACT

This article discusses the possibility of evolutionary learning in teachers' education, having as a reference Habermas' purposes of world action continuation and discursive world. The study, of a reconstructive nature, analyzed the paradigmatic-epistemological approaches that underlie the doctoral theses on teachers' education, defended in Brazilian federal universities, in Coordenação de Aperfeiçoamento de Pessoal de Nível Superior (CAPES) triennial assessment (2007-2009). It has been sought to identify the elements that characterize the approaches: historical-materialist, phenomenological-hermeneutics, practice epistemology, complex epistemology, social representation and poststructuralist theory. It was concluded that what lingers in the different research approaches is a common axis of objectivity characterized by shared certainties and the focus on the same problematizations, making explicit the possibility of an evolutionary continuation between what reality teaches about experience with the world and what is learned in argumentative interaction.

## KEYWORDS

epistemology; search; teachers' education; learning; communication.

## ***APRENDIZAGEM EVOLUTIVA NA FORMAÇÃO DE PROFESSORES: CONTINUIDADE ENTRE AS CERTEZAS DA AÇÃO E OS ACERTOS DISCURSIVOS***

### **RESUMO**

O artigo discute as possibilidades de uma aprendizagem evolutiva na formação de professores, tendo como referência os propósitos habermasianos de continuação do mundo da ação e do mundo discursivo. O estudo, de natureza reconstrutiva, analisou as abordagens paradigmático-epistemológicas que perpassam as teses de doutorado sobre formação de professores, defendidas nas universidades federais brasileiras, no triênio de avaliação da Coordenação de Aperfeiçoamento de Pessoal de Nível Superior (CAPES) (2007-2009). Buscou-se identificar os elementos que caracterizam as abordagens: materialista-histórica, fenomenológico-hermenêutica, epistemologia da prática, epistemologia da complexidade, teoria da representação social e pós-estruturalista. Concluiu-se que perdura nas diferentes abordagens de pesquisa um eixo comum de objetividade caracterizada pelas certezas compartilhadas e pelo foco nas mesmas problematizações, o que explicita a possibilidade de continuação evolutiva entre o que a realidade ensina na experiência com o mundo e o que se aprende na interação argumentativa.

### **PALAVRAS-CHAVE**

epistemologia; pesquisa; formação de professores; aprendizagem; comunicação.

## ***APRENDIZAJE EVOLUTIVO EN LA FORMACIÓN DOCENTE: CONTINUIDAD ENTRE LAS CERTEZAS DE LA ACCIÓN Y ARREGLOS DISCURSIVOS***

### **RESUMEN**

El artículo analiza las posibilidades de aprendizaje evolutivo en la formación docente, tomando como referencia los propósitos habermasianos de la continuación del mundo de la acción y del mundo discursivo. De naturaleza reconstrutiva, el estudio analizó los enfoques paradigmáticos epistemológicos que subyacen a las tesis doctorales sobre la formación del profesorado, defendidas en las universidades federales brasileñas en la evaluación trienal de la Coordenação de Aperfeiçoamento de Pessoal de Nível Superior (CAPES) (2007-2009). Se trató de identificar los elementos que caracterizan los enfoques: histórico-materialistas, fenomenológica-hermenéutica, epistemología de la práctica, epistemología de la complejidad, teoría de la representación social y posestructuralista. Se concluyó que persiste en los diferentes enfoques de la investigación un eje común de objetividad que se caracteriza por las certezas compartidas y el enfoque en las mismas problematizaciones, haciendo explícita la posibilidad de continuación evolutiva entre lo que enseña la realidad en la experiencia con el mundo, y lo que se aprende en la interacción argumentativa.

### **PALABRAS CLAVE**

epistemología; búsqueda; formación del profesorado; aprendizaje; comunicación.

## INITIAL CONSIDERATIONS

Studies about teacher education in Brazil have a certain historical density, and have made significant contributions that are capable, as Macedo (2010, p. 22) affirmed, of “[...] creating and developing a relatively (in)tense debate about its emergence”, and its epistemological and political-pedagogical organization. This is a situation that involves multiple projects, considering that institutions have the autonomy to “define the curricula for their courses and programs, in compliance with the applicable general guidelines” (Brasil, 2007). Thus, to ensure the task of attending to the objectives of the contexts, adjustments in teacher education have been achieved based on the understanding of representative institutional commissions.

The initial and continuing teacher education incentive programs of the Ministry of Education (MEC), such as the Programa de Formação Inicial e Continuada, Presencial e a Distância, de Professores da Educação Básica [Program for Initial and Continuing Education, in Classrooms and at a Distance, for Basic Education Teachers] (PARFOR), the Programa Institucional Institucional de Bolsa de Iniciação à Docência [Institutional Grant Program for Initiation to Teaching] (PIBID), the Programam de Consolidação das Licenciaturas [Teaching Certification Consolidation Program (*Prodocência*), and the Universidade Aberta do Brasil [Open University of Brazil] (UAB), among others, are conducted by independent representative groups that deliberate on the teacher education guidelines in keeping with their epistemological conceptions.

In a single institution, one can sometimes find a diversity of concepts that appear to address completely different realities, and resistance and difficulties in sharing experiences. In our view, this is a time in teacher education, which simultaneously denies single-minded reasoning and substantiations – because they do not attend to the multiplicity of the historic movements and various contexts – while appropriating various perspectives, but without the proper capacity for critical appreciation.

In times of a culture of differences and uniqueness, this trend is very seductive, because the need to abandon a single model, which was advocated by classical metaphysics and later by the modern positivist episteme, has opened a wide range of possibilities for the development of rationality. In the field of research, this perspective developed epistemological structures that now claim subjectivity, objectivity, or an interrelation between these elements, or even a passage through shared intersubjectivity as vectors of understanding. However, the escape from belief in solitary theories cannot occur at the expense of falling into the opposite extreme of the affirmation of plurality and diversity, to the point of losing sight of the horizon of shared dialogue.

Gatti (2010) notes the absence of a common educational base in the curricula of pedagogy and teaching certification courses as one of the causes of the ambiguous and fragmented scenario that this field currently experiences. According to the author, we still have difficulty handling the purposes of this education, given the complexity of its demands with regard to the commitment to meeting the needs of primary schools and other educational levels. In the absence of a motivation for a

more constructive conversation, we can fall into what Flickinger (2004, p. 203) has warned, that is, the triggering of “an epistemological war marked by the tendency to establish a supremacy of one view over another, based on mutual ideological denunciations”. This cannot be conducive to solving the problems in the field, but rather to a scenario in which the beliefs of others are considered offensive and outrageous and less as an opinion to be evaluated or recognized.

In this sense, we believe that this may be the time to revive the idea of understanding through communication structures, investing in *telos* as a conductor of the adjustments between the different interpreters of the field. Thus, adopting a communicative perspective between the discourses can contribute to the possibility of promoting a wider discussion in the management of teacher education in view of the possibility of producing agreements without eliminating distinctions. We agree with Habermas (2004), who states that it is necessary to develop a reason that knows how to guide, but without limiting the alterity of the other, thus avoiding relativism or irrationalism. According to Habermas, it is in discourse with pretensions of universality that we can

critically examine and certify the knowledge that becomes problematic. Communicative adjustments help to release us from misconduct and failures and guide us in theoretical and practical activities in a way that perhaps no single interpretation could do (*idem*, p. 50).

Therefore, it is necessary to think of a discourse that, without removing the distance between the different, can develop more favorable and appropriate adjustments to practices geared to a world of ordinary life.

To identify the opportunities for cooperative work between the paradigmatic approaches used in research on teacher education, we first seek to recognize the different epistemological approaches used, and then to identify possible certainties and shared problems in the field, focusing on the possibility of learning about this issue through contributions from different conceptions.

We believe it is important to note, as we seek to make clear below, that the works analyzed have a strong impact on the field of education and present significant contributions to the progress of its discussions. However, we deem it necessary to work on a discursive adjustment between the different approaches because otherwise these precious contributions – because they are often in conflict with each other – tend to get lost. Therefore, we recognize that what Habermas (2004) understands as non-epistemic certainties to be the elements that support the discussions, i.e., as unthemed subsidies that can move the debate beyond the paradigmatic fields of justification.

Our concern is to identify what we have learned from dealing with the world, from the multiplicity of voices, to enable learning by mutual objections. This understanding can contribute to the discussion on teacher education because we do not defend the tendency to foster discourses that are isolated from one another, but a discursive action that is supported by the pursuit of success of lived and shared practices. Therefore, the endeavor does not simply involve the defense of the wills

of representative groups, but of intersubjective learning, where each prospect is committed to argue its concepts before the others, focusing on successful practices. The idea is to allow a communicative learning that gives continuity to ever more elaborate practical structures.

Therefore, we attempt to catalog some approaches that guide knowledge in the field by analyzing doctoral dissertations in education about teacher education that were defended in federal universities in CAPES' triennial evaluation of 2007, 2008 and 2009 and available on the portal "Domínio Público." The study is reconstructive in nature (Devechi; Trevisan, 2010), it intends to introduce understandings that allow rethinking the various contributions to the issue, seeking a broader interpretation, in which they can be included. The goal is not to weaken the various claims to truth about the issue, but to establish a vector by which they can be recognized, guided and, thus strengthened, benefiting from reciprocal learning from shared experiences.

The resource used for this data collection was a keyword search related to the topic of teacher education, such as: teacher education, education of educator or education of educators. A total of 59 theses were identified from different regions of the country that express an idea that marks the state of the art of research conducted in this field. Most of the theses presented in these institutions are available on the portal "Domínio Público," which facilitated access to work from different regions of the country. We sought to identify the discussions that are influencing understandings about the issue because we believe that doctoral research is representative of the development of this context.

We proceeded to map the epistemological and theoretical categories of the 59 theses, essentially by identifying the methodological approach used by each, as well as: the research problem, the study objectives, the scientific perspective, the research methods, the data collection or production instruments, the concepts of the subject and object, the relationship between theory and practice, the concept of teacher education, the paradigm that sustains it, the relationship of particularity and totality and the authors used. The idea was to first observe the implicit and explicit elements that could characterize the epistemological approaches used in the studies to then recognize the common practical certainties that can be placed as a reference to a possible communicative learning.

## PARADIGMATIC PERSPECTIVES IN RESEARCH ON TEACHER TRAINING

In 1984, Gamboa (2008) conducted a survey analyzing 502 doctoral dissertations and master's theses in education that were defended between 1971 and 1984 in graduate programs in the São Paulo state at the Pontifícia Universidade Católica de São Paulo (PUC-SP); the Universidade de São Paulo (USP); the Universidade Metodista de Piracicaba (UNIMEP); the Universidade Estadual de Campinas (UNICAMP); and the Universidade Federal de São Carlos (UFSCar). This study identified three broad approaches to research in the field: empirical-

analytic (66%), phenomenological-hermeneutic (22%) and critical-dialectical (9.5%) (*idem*). Compared to this work of 30 years ago, we have seen a transition, both in the perspectives adopted and in the emphasis of the approaches he identified.

Although this study focused only on teacher education, with a smaller selection of documents, it was possible to make an introductory quantitative assessment about the perspectives that were used and to perceive the evolution of the discussions in this scenario. Our analyses were based on the statements by the researchers and, in some cases, on our understandings of the studies, showing that of the 59 theses analyzed, 17 were clearly based on historical-materialism, 18 on the epistemology of practice, 9 had a phenomenological-hermeneutic perspective, 6 were based on the epistemology of complexity, 5 were based on the theory of social representation and 4 were poststructuralist. After the identification of perspectives, the theses were grouped and coded, enabling the production of a metatext that sought to express the synthesis of the approaches.

From an analysis of the categories, we sought to identify the specificity of the theses, which allowed us to contextualize the epistemological understanding used by the researchers. In this article, we characterize the approaches by the interpretations presented in the texts analyzed, without committing to elucidating them in the specialized literature. For this reason, some syntheses will be made using quotations from the material found in the theses.

These are approaches that, in the possibility for communication, may allow deeper discussion of problems common to teacher education, considering their differences about the concepts of subject, object and inter-subjectivity. This will be our purpose in the characterization of the approach of each thesis, so that, from the epistemological differences, it is possible to explain the possible similar concerns that were raised so that we can construct more elaborate and argumentative structures suitable to the needs of teacher education.

## EDUCATION AS A TRANSFORMATIVE PRAXIS

The theses that are characterized as having a historical-materialist approach sought to identify the conceptions underlying teacher education proposals by: discussing the relationships of control that permeate the teaching profession, particularly in the context of continuing education; identify the actions that comprise the education processes; analyze teacher education policies and educational reforms; and understand the contradictions found in teaching practices.

The research methods were mainly identified by the researchers as “dialectical” or “dialectical-historical materialism,” with some incidences and associations with case studies and content analysis. They thus fall “among studies that investigate the object from the categories and laws of dialectics as a logic and theory of historical knowledge” (Sá, 2009, p. 19). For data collection/production instruments, most of the studies used a documental base (70%), with the data search supplemented by interviews or questionnaires.

Regarding the concepts of theory and practice, the theses express that these “are inseparable processes that dialogue with contexts external to that in which

the teaching practice takes place” (Teixeira, 2009, p. 57), thus linking objective and subjective relations. Assis (2007, p. 154) states that

“[...] the practice cannot be limited to a simple theorization to understand or explain the practice, but should instead be critical in order to identify the relationship between theory and practice because if we do not proceed in this way, theory can become a mere ‘empty’ discourse and practice nothing more than activism.”

Therefore, emphasis is given to the need to rethink the fragmentation of theory and practice and to explain that “theory is practice in that it materializes through a series of mediations that previously only existed ideally, as knowledge of reality or ideal anticipation of its transformation” (Torres, 2007, p. 242). All theory is therefore practice.

The conception of teacher education is expressly anchored in the concept of the work of teaching, i.e., “teachers construct a field of knowledge (information, competencies, know-how-to-do, how to be etc.) based on professional and pre-professional experiences and on a long process of socialization” (Teixeira, 2009, p. 23). Therefore, continued training is considered “privileged space” for teacher education and is focused on research/reflection in practice, with an emancipatory view.

Thus, the understanding of teacher education is based on and related to all the contexts that involve teaching practice, from micro to macro-structural. In this context, it seeks to develop a “broad and general analysis about the history, culture, society and the political-economic projects governing teaching” (Torres, 2007, p. 18) to understand reality and the possibilities to transform it. It locates “teacher training as one of the historical development processes of society”, considering the need for a “process of replacing a theoretical and practical education for other superior methods, from conservative education to progressive education” (Minasi, 2008, p. 126). Thus, teacher education is understood as a broad, complex and continuous process.

## EDUCATION IN THE CONSTRUCTION OF THE IDENTITY PROCESS

Many of the theses analyzed were guided by the epistemology of practice, explained by Tardif (2000, p. 10) as “the study of the body of knowledge actually used by professionals in their daily work space to perform all their tasks”. This perspective defends the “interest in the individual teachers, in their life stories and especially the way they build knowledge for teaching” (Dal-Forno, 2009, p. 82). Knowledge is treated in a broader sense “that encompasses the knowledge, skills, abilities (or aptitudes) and attitudes, that is, that which was often called the knowledge, know-how and know-how-to-be” (Tardif, 2000, p. 11). Research based on this perspective focuses on the body of knowledge used by teachers in their workspace, that is, on the study of the real teaching context that represents and is simultaneously mobilized as a self-training guide. The purpose is to reveal the knowledge used in the practice of professionals in concrete situations of action.

This approach considers that “professionals, and their practice and knowledge are not separate entities, but ‘co-belong’ to a work situation in which they ‘co-evolve’ and transform” (*idem, ibidem*).

In this perspective, teachers are conceived as:

“individuals who establish themselves through the temporality of actions, and in the various worlds in which they live together as a family, interpersonal relationships, schools, i.e., through the interaction with others and society around them, thus constituting their professional and personal identity” (Araújo, 2009, p. 115).

For this reason, education is understood as an ongoing

“systematic, organized and permanent [process] of personal and professional development that allows a construction and reconstruction of professional knowledge and competencies. This enables a better understanding and improvement of the procedures used for better performance and work results” (Dal-Forno, 2009, p. 94).

Thus, professionalization, which is something much discussed by the theses guided by this approach, is considered “a component of reflections on teaching and the practices that take place in schools” (Fonseca, 2008, p. 27).

In terms of their methodology, the studies are eminently qualitative, using exploratory and descriptive research, intervention research, rhetoric and discourse analysis, ethnography and tools such as participant observation, narratives, teaching cases and lesson memories. Through these approaches, it is believed to be possible to know what teachers think, do, why they do things, how they overcome problems of school life, how they prepare and modify routines and how they recreate their strategies. There is also criticism of the various proposals for the continuing education of teachers that

“have often proved inadequate to the educational needs of teachers, since they do not address aspects considered relevant that are related to their practice. In addition, they are fragmented and separated from the practical context of the classroom, and often superficial in their theoretical approach” (Dal-Forno, 2009, p. 55).

In this approach, “for a teacher to know how to teach, it is necessary to dominate more than knowledge of the specific content of an area. It is necessary to have a kind of knowledge that is unique and constructed by the teacher in the exercise of the teaching activity” (*idem*, p. 201). That is, one must study the body of knowledge that mobilizes the exercise of teaching in educational practice to bring out concepts reflected by teachers in daily activities. Gomez and Sacristán (1998, p. 363) highlight in this perspective that the teachers are viewed as “[...]craftsmen, artists or clinical professionals who must develop their experiential wisdom and creativity to address the unique, ambiguous, uncertain and conflicting situations that

make up the life of the class.” For this reason, training is based on an epistemology “of”, “for” and “from” teaching practice, based on experience established during their professional paths.

## THE TEACHER EDUCATED IN DIALOGUE

The phenomenological-hermeneutical theories seek to understand how the processes of teacher education occur in different modalities (distance, classroom, in the field) and certifications, to “examine the presence of becoming aware in the continuing education of the educator” (Mendonça, 2009 p. 4). We realize that these studies seek to analyze the “relationship between the education undertaken and the significance teachers attribute to the learning path” (Santos, 2008, p. 7) and to identify the meanings that professors in teacher colleges attribute to the pedagogical knowledge “based on processes of assignment of meanings, and the construction of the individual and collective identities of the individuals” (Silva, M. B., 2008, p. 5). The goal is to “describe how teachers conceive the route taken and their educational situation” (Carrilho, 2007, p. 6), to “locate theoretical perspectives of teacher education, contextualize the institution and the memory of education”, and to “analyze the educational trajectories and the teaching knowledge” (*idem, ibidem*), and to “understand how lay teachers build the repertoire of professional action in teaching” (Rocha, 2007, p. 16).

A variety of research methods were used including: ethnomethodology, case studies, intervention research, ethnography, documentary research and narrative research. The data production tools included, focus groups, individual and group interviews, life stories, participant observations, written narratives and questionnaires.

The theses provide an understanding of the historical, dialogical individual who is the constructor of the practices in the multiple and different contexts. The individual is understood

“as a writer of stories that are built from different situations of the teaching practice at different levels of complexity and consist of beliefs, habits, implicit theories, references that may be scientific or not, political, social, cultural and economic contexts interwoven with life situations” (Santos, 2008, p. 117).

“The subject influences the object and is influenced by it” (Rocha, 2007, p. 22), expressing an inseparability between the observing subject and the subject observed. It is a “non dichotomization” (Silva, M. B., 2008, p. 49), of a “mutually implicated” relationship (Carrilho, 2007, p. 6). The theses defend an interrelation between the theoretical dimension and the practical dimension, i.e., an “articulation between theory and practice that is involved directly in an experiential learning process” (Maioli, 2009, p. 99). The practice should “test the theory, notions and prejudices, stimulating reflection and advancement” (Mendonça, 2009, p. 42). “Practice does not account for responding to the complexity of the educational phenomenon, just as theoretical knowledge alone is not capable of establishing

effective learning relationships, because teaching and all its relations in the process must be considered” (Rocha, 2007, p. 64).

The understanding of the authors about the commitment of teacher education is focused on the formation of a professional with theoretical and practical consistency, who is able to build and problematize knowledge in relation with others and with the different realities. Therefore, teacher education should be based on reflection and be permanent. The authors also defend the formation of “reflective and investigative” teachers (Santos, 2008, p. 7), a professor who is an “educator, guide to memories, based on his voice, talking about himself, elements of his training, strategies, performance and knowledge” (Carrilho, 2007, p. 254). Training should be problematizing “and propitious to learning” (Maioli, 2009, p. 106). According to Rocha (2007, p. 71), “we must think about education that considers reflection as a link between the different stages, initial and continuing, and the different experiences of the teacher.” Teachers should be individuals that establish themselves through history, “reaching awareness by interpreting the meanings of their own action” (Mendonça, 2009, p. 32). For Santos (2008, p. 99), “the challenges and the action of this professional, understood in the ethical sphere of commitment to the education of other individuals” must validate “the concern for the role and place of reflective and investigative practices in education”.

In terms of the conception of education, they present a perspective of historical practice that is “committed to the integral education of the individual” (Maioli, 2009, p. 128). It must be “dedicated to the construction of a more just and democratic society” (Silva, M. B., 2008, p. 178). In this way, education is close to the lives of individuals, transcending its commitment to spaces of formal learning, that is, reduced to an intra-school context. In this sense, “Education is part of this great movement that is life, and upon breaking with the idea of sealed, linear knowledge, it unblocks the singular path and allows other levels of knowledge to surface” (Dias, 2007, p. 4). That is, education is intimately linked to politics of culture and must always propose new situations and constructions (Cesário, 2008).

## THE MULTIREFERENTIALITY OF EDUCATION

We also found that these theses were marked by the epistemology of complexity, which is defined by Morin (2007, p. 13) as “a fabric of inseparably associated heterogeneous elements, which have a paradoxical relationship between the one and the many.” In other words, this approach rests on an ambiguous, uncertain, disordered network of events and interactions that constitute our phenomenal world.

For complex thinking, “the method is a strategy of the subject that relies on scheduled segments, which may be revised as a function of the *dialogic* between these strategies and the path itself” (*idem*, p. 28). In this perspective, the method is a learning program that finds its success not in the end result, but through retroactions, mistakes and the adjustments that occur during the process. The errors stimulate the appearance of diversity and contradiction and therefore represent a possibility for development. It is a journey that does not begin with the method, but in the search

for it. The inventive participation of the subject can reveal the generative principles of the method and simultaneously promote the creation of other principles. Therefore, it contains at least two levels that feed one another, favoring the development of strategies for knowledge and also for action. Thus, the method of complex thinking is “teaching to learn” (*idem*, p. 29) and not only allowing arriving at a truth. As expressed by Roza (2009, p. 37), “The discussion based on complexity presupposes welcoming investigation as a guiding pedagogical principle where the teacher and student engage in projects of construction: of life, of knowledge.”

This movement is a result of the transition between traditional and emerging paradigms because “There is need for investment in the multiplicities originating from nonlinearity, mapping other forms of dialogue in difference, in the interconnections, realizing different configurations” (Silva, J. A. M., 2008, p. 65). Complexity does not aspire to clarity, to distinction and to the marking of conceptual boundaries. It understands that the boundaries are permeable, degradable and fluid, operating with macro-concepts or guiding principles that can be considered cognitive operators of complexity, and [...] “these references are intrinsically linked to the paradigm of *complexity* that requires a dialogic, recursive and multidimensional thinking where connecting and problematizing go together” (*idem, ibidem*, emphasis in the original)

According to Moraes and Valente (2008, p. 41), the dialogic “appears in the relations between the researcher and the researched object, and that, in this case, produces the research organization.” For this reason, most of the theses are characterized as qualitative research and express the link between the researcher and the study, using a diverse repertoire of investigative tools, such as comprehensive interviews, evolutive plans, interpretation forms, reflective diaries, autobiographical memories, virtual interactions in forums, narratives, diaries, teaching cases, evaluation questionnaires and participant observations.

The principle of the reintroduction of the knowing individual is another guiding principle of complex thinking and expresses the essential active role of the individual in the process of knowledge. According to Morin (2007, p. 38), “the individual does not reflect reality. The individual constructs reality with the help of the principles that we mentioned”. Knowledge is not a product of the accumulation of information but of its (inter)active organization, and therefore, the action of the individual is the complexity strategy. The production of knowledge involves self-organization and co-determination processes that are active and therefore dynamic and emerging. The definition of research subjects and the motivation of researchers, for example, are influenced by the historicity of the individuals, because the construction of knowledge manifests itself based on what can be perceived, understood, built and rebuilt. Therefore, the reality interpreted and described by researchers is one of the possibilities, one of the possible understandings that emerged from the codetermined subject/object relations.

Therefore, the principle of recursivity can be expressed as a spiral of self-organization because it generates a dynamic of a self-producing nature of what it produces. It is aggregated, therefore, to the principle of multireferentiality, which refers to “man in relation to the context and with himself” (Dantas, 2007, p. 18)

and to the multidimensionality of the individual (affective, cognitive, social, cultural, spiritual, etc.). In this perspective, teacher education is understood “as a continuous, systematic and organized process that tends to redimension teaching and school organization” (*idem, ibidem*).

We also observed a strong shift of perspective in the theses analyzed from education oriented to teaching and to the learning perspective, which indicates changes in the conception of education:

“the belief in the horizontality of teacher and student relations, in the conviction of the provisional character of the object of knowledge; in the certainty that doubt is what triggers discoveries and that by being re-signified and contextualized by the student, it aggregates knowledge and values” (Roza, 2009, p. 40).

## EDUCATION CONSTRUCTED ON SOCIO-CULTURAL REPRESENTATIONS

Some of the theses analyzed are based on the theory of social representations (TSR) of the social psychologist Serge Moscovici, which proposes understanding social phenomena by using psychological and sociological concepts. Moscovici (2003, p. 21) defines social representations as

“a system of values, ideas and practices, with a dual function: first to establish an order that will allow people to guide themselves in their material and social world and control it; and, secondly, to make communication possible among members of a community by providing them to name and classify, without ambiguity, the various aspects of their world and of their individual and social history”.

This is a mixed science that combines psychological and sociological concepts, seeking to understand how socialization processes provide culturally shared representations, ways of seeing and to see oneself in the world without, habitually, being aware of these “implicit theories”. It is, therefore, a dual process: the social development of the processes of perception and of individual development, referring to the use of these representations (Pozo, 2002).

These representations are located in the field of social psychology, but with a perspective different from that used by Durkheim for the study of collective representations (Oliveira, 2008).

“While the collective representations of Durkheim are oriented towards the conservation and preservation of society, the social representations of Moscovici seek questions about how things in society are transformed, that is, how the new, the conservation and preservation become part of social life” (*idem*, p. 63).

This is an approach derived from social psychology that seeks to recover and classify the collective discourses based on their sociological, anthropological and

psychosocial attributes to interpret and understand the intentions and motives of the actions of people about reality (Moscovici, 2003).

These theses have the following study objectives: “to verify, in the conceptions of teaching and learning, the existence of differences and similarities between the social representations of certified and uncertified teachers” (Perez, 2008, p. 10); “To describe and analyze the process of teacher education” (Melo, 2008, p. 6); and to “understand what social representations of research guide and/or resignify educational experiences” (Bortolini, 2009, p. 20). This involves research that seeks to understand educational activities through the recovery of the perceptions and opinions of teachers in relation to certain social phenomena in an attempt to understand the meanings of these experiences.

The methods used in the research were: content analysis, biographical narratives and case studies. For instrumental data collection, the authors used interviews, document analyses, focus groups and questionnaires. For the relationship between theory and practice, they proposed an articulation that facilitates interactions between teaching and learning.

“Built in social interactions, social representations turn out to be constituted in mediations between individuals and the world, interpenetrating feelings, ideas, biography, ideologies, merging the histories of individuals with histories of nations and appropriated by the individuals to give meaning to the two actions, to their lives” (*idem*, p. 29).

Concerning the relationship between theory and practice, “the teacher is considered a professional who produces knowledge about teaching based on her experience and practice” (Perez, 2008, p. 17). In this perspective, there is an appreciation of subjectivity as an articulating locus, in which life experiences are processed. Therefore, it is “important for teachers to appropriate the theoretical knowledge that, united with their experiences, allow them to look at the practice, reflect on it and analyze it, thus approximating fields of education and professional action” (Melo, 2008, p. 102). Moreover, according to Melo (*idem*, p. 274), “to have transformation in teaching practice, teachers must first transform themselves.” Based on that principle, the professor at a teacher’s college becomes an example of self-formation, given that “all professional preparation for the exercise of a profession requires the appropriation of certain knowledge and practices, that is, a certain order of knowledge and specific technical procedures” (Bortolini, 2009, p. 43).

In relation to teacher education, this approach argues that we should prioritize the production of knowledge based on experience. However, “the fact that teachers develop the skills to teach in their continuing training does not mean that a consistent initial education is not required” (Perez, 2008, p. 17). Instead, this investment should lead to self-awareness that: “All education implies an action of individuals on themselves - educate, constitute, create” (Melo, 2008, p. 87). That is it “prescinds an approximation between these different forms of knowledge based on the teaching experience, which allows problematizing and defining a field of work” (Bortolini, 2009, p. 17). Therefore, this approach requires reviewing oneself

in relation to others and the world to bring about change in the subjectivity based on experiences before any attempt to modify concrete reality.

## TEACHER EDUCATION FOR THE FREEDOM OF DISCOURSE

Meanwhile, the theses identified with a post-structuralist perspective (PS) sought: “to understand how, presently, the individuals, students and teachers [...] recall the time lived in the [...] institution” (Almeida, 2007, p. 25); to “conduct a transversal reading of the theoretical references that support Brazilian public policies for teacher education” (Silva, 2009, p. 10); to “know how the teacher education process takes place in a pedagogy course” (Bittencourt, 2008, p. 9); and to understand distance education as a paradigm-shifting instrument in teacher education from the perspective of cultural studies (Carvalho, 2009).

Discourse analyses, documentary research, case studies and content analyses were the methods used by the theses in the post-structuralist line. With regard to data production tools, we identified interviews, questionnaires and oral histories. The look at the object of study is seen through an “epistemological base of a deconstructionist character” (Silva, 2009, p. 40).

In terms of the individual, the post-structuralist line understands that it “constructs the research data, establishes relationships between them, prepares images, produces meanings and plots” (Almeida, 2007, p. 13), emphasizing that the individuals should be “critical and capable of understanding and intervening positively in the social movement to which they belong” (Silva, 2009 p. 18).

Regarding the relationship between theory and practice, the theses from this school believe that they are implicated in one another and must dialogue with one another (Almeida, 2007), because “the supposed separation between theory and practice, between those who think and those who do, between discourse and practice, allows an idealized profession” (Bittencourt, 2008, p. 42). The understanding about teacher education is that one should recognize the plurality of meanings, symbolic forms and discourses, contributing “to the deepening of reflections that, together, will collaborate with the construction of a collectivity” (Silva, 2009, p. 41); or to “extrapolate discussions on how to teach and provide the future teacher experiences that will offer support in understanding the profession and the entire complexity that conditions it” (Bittencourt, 2008, p. 14). This is an approach that views teacher education as an opportunity to reach the space of differences and care for life.

## FROM SHARED KNOWLEDGE TO COMMUNICATIVE LEARNING

In general, all of the studies analyzed sought to understand how teacher education takes place, thus expressing a unanimous will to transform the current state of the educational establishment, considering the dissatisfaction with current teaching practices. In addition, the research methods and data collection or production instruments were equivalent: case studies, discourse analysis, content analysis, ethnography, narrative analysis and documentary research. That is, specific methods and instruments for each approach were not seen. It was even possible to

observe the prevalence of qualitative methods and the use of more than one research tool, thus revealing the intention to broaden the perceptions of the researchers about the object of study.

Regarding the concept of the individual, the studies presented it as reflective, dialogical, critical and transformative of practices in the many different contexts. The difference is in the relationship of this individual with reality. While the phenomenological-hermeneutical, post-structural, and theory of social representation and the pragmatic and complexity theory approaches see the opportunity for individuals to construct reality through language and discourse in different cultural contexts, the materialist approach supports the increasing opportunity for closer access, to the real, seeking to overcome what Marx calls "false consciousness". That is, for the latter, transformation is not the result of ongoing processes of interpretation and communication but of the confrontation of individuals with the concrete conditions of life because history is rooted in the material world.

Marx and Engels (2007) begin with the premise that the actual bases are concrete individuals, their actions and their material conditions of existence, both those that they find, as well as those produced by action itself: "It is not consciousness that determines life, but life that determines consciousness" (Marx; Engels *apud* Gorender, 2007, p. xxv). That is, there is a materiality in this approach that does not appear in the others.

Regarding the relationship between theory and practice, the idea that these concepts are articulated and are inseparable processes involving one another appears to be common. The understanding of teacher education also appears to have consolidated the idea that it is a complex and ongoing process, aimed at preparing professionals with theoretical and practical consistency, who are able to construct and problematize knowledge in relation to others and with different realities, transforming and emancipating social contexts. It appears that even when referring to education in different levels or modalities, or with another understanding of reality, the main purpose of the studies was to account for what makes a successful educational practice.

We understand that the common objectivity identified can be presented as a motivation for discussion in the plurality, allowing the coordination of different interests without compromising the democratic achievements of individual liberties. It involves a possibility for one discourse to face another, not for one to dominate the other, but to be understood. In communicative interaction, we find the critical basis that is necessary for the proper handling of problems in teacher education. This is because in the communication proposed by Habermas (2003), there is no room for impositions of *ethos*, but for argumentative exchanges that are necessary for adjustments in practical life.

We can say that given the knowledge identified in the theses, the research on teacher education contains the elements needed for the evolutive learning suggested by Habermas (2004), given that, in addition to the interpretive plurality necessary to discourse, they share the knowledge (certainties) necessary for agreements; agreements that we understand are necessary for successful practice in this field.

## EVOLUTIONARY LEARNING IN TEACHER EDUCATION

Habermas seeks to develop the communicative aspects of rationality by placing reason at the basis of the validity of communication. This involves a non-unilateral rationality, which is made possible only by a multiplicity of voices that are “understandable from one language to another” (Habermas, 2002, p. 153). A statement is only rational in this perspective if it meets the conditions of communication dedicated to understanding, when individuals go beyond the confines of their subjectivities in favor of justified intersubjectivity. The proposal is to allow problems to be treated in the multiplicity of possible voices in the human language.

However, for communication to go beyond the theoretical *ethos* and reach some agreements, it is necessary to begin from a worldly reference, understood by Habermas as non-epistemological certainties that are required for actions in the world. These are certainties that are manifest “upon acting only operatively and therefore in a non-thematic way,” which “gives the pretensions of discursively themed truth a point of reference that transcends all justification” (Habermas, 2004, p. 50). This means that the truth goes beyond justification because its conditions of possibility must be fulfilled by reality itself (*idem*). He thus defends the assumption of a common practical world as a necessary anticipation to understanding among those that are different.

Thus, Habermas presents learning as an evolutionary process, in a sense of continuity between what exists objectively (non-problematic issues) and what can be unproblematicized through communication among the different positions. The objective is understood as that which, together with daily practices, function (non-epistemological certainties), and what meets resistance in the world is debatable, manifesting itself through problems.

For Habermas (2004), these problematic issues can only be resolved through discourse, having these “certainties” as a reference, which is the only way evolutive learning is possible. This is a procedural learning, in which common problems are discussed based on the knowledge that is already found through practical success, which offers fallibility to discursive consensus. He explains that the everyday dealings with the world “manifest the resistance of objects to which we refer when we affirm facts about them” (*idem*, p. 35). Thus, at every discursive correction, knowledge is always improved. A task of discourse would be to deproblematize practical knowledge to readjust it to the world.

For this German philosopher, knowledge is developed through a process of natural evolution in which cultural learning processes only “give continuity to prior ‘evolutionary learning processes’, which, in turn, produced the structures of our ways of life” (*idem*, p. 36). In this way, he does not want to provide causal explanations for rational knowledge, because the causal explanation affects the genesis and not the validity (necessity and universality) (Dutra, 2005). The author’s intention is to address knowledge as an ability to establish continuations of increasingly elaborate structures, which are capable of feeding the rational reconstruction of interpretations of the lived world.

His perspective is to allow knowledge to be constantly repaired in the multiplicity of voices facing the needs of a common world, which arises as resistance to our actions. Thus, valid knowledge is realized through man's ability to speak and act in integration to relations with the real world. This involves two complementary areas: discourse and action, which are complementary in learning between problematization and the argumentative solution. Habermas explains this situation, saying that "in the fundamental interpretations, what reality teaches us is reflected in our active dealings with the world and what the objections that we find in the discursive exchange teach us" (Habermas, 2004, p. 35). Thus, the renewal of practical discourses occurs through the translation of certainties shaken by action on hypothetical statements and by the retranslation of discursively justified claims on certainties of reestablished action.

Habermas' proposal is to ensure the continuity of learning processes by identifying, in action, unthemed knowledge that can be placed as a reference to the discernments in the multiplicity of voices. This concept was what we attempted to identify in the theses analyzed - a common objectivity that would motivate a conversation among the multiple perspectives. That is, we attempted to recognize the possibility for evolutive learning in the field of teacher education, by realizing what is shared in practical treatment, so that in the conversation, we could learn from the criticism of the other and thus allow a continuity between what no longer works in dealing with the world and what can be corrected through discourse.

The idea was to identify the possibility to give continuity to that which we learned from the independent world (shared certainties) through the adjustments reached in interpretative plurality. This is because for Habermas, both the independent world and pluralism lead to the production of knowledge, which is understood here as learning.

Even in the case of teacher education at different levels and modalities, we can say that based on these references in the theses analyzed, there are truths shared in the active dealings with the world, i.e., unquestioned truths that are used by all discourses. These include certainties such as the inseparability between the subject and the object, teaching and research, the need for the association between theory and practice, the need for the continuing education of teachers and ideological criticism. Moreover, education must respect differences and be concerned with the contexts. Finally, they also share the understanding that the individual is historical and that reality is complex, among others.

Considering the understandings mapped in the theses, we realize that a common axis of objectivity exists that is characterized by shared certainties and by the focus on the same problematizations. The proposals identified are forms of knowledge that do not meet resistance in everyday practical activities and therefore serve as common references. This is an objectivity achieved in practical experiments that take place based on the stability before the world and, therefore, can be placed as a starting point for evolutive learning. Identifying these collective certainties justifies the approximation of the different approaches in relation to their problematic issues. In addition to specific characteristics, the roots of the problems are practically the same because they share communicative experiences.

Therefore, we are not investigating questions about different realities, but about worlds that are somehow associated. Thus, we can say that there is an enormous possibility to make more universalized adjustments in the discussion about teacher education. The practical objectivity that was identified authorizes a discursive deproblematization beyond the contexts of justification; at the same time, it explains the evolutionary possibility for the continuation of the learning processes in the field, taking advantage of what reality teaches us through experience with the world and what we can learn from the argumentative exchange. This involves a chance to overcome the pathologies of contemporary communication, specific to the field of education, and to meet the needs that are presented to us in the world of life. There is no doubt that the failure to recognize this common axis is one of the reasons for the resistance to communication and thus the slow progress in the production of knowledge of the field.

## FINAL CONSIDERATIONS

The study conducted shows us that there are elements conducive to the development of discursive adjustments between the approaches identified for addressing problems in teacher education. The studies were based on the same objective referent and similar problematizations, indicating that conditions exist for a discussion guided by a multiplicity of voices. The differences between the approaches expressed in the understanding and treatment of the same problem reveals the important contributions that they denote to the process of argumentative interaction. Beginning from the starting point, each approach would submit its set of ideas, concepts and understandings in the face of criticism from the others. Once the objectivity is recognized, the pretense of the discourse would always be guided by the successful practices and would also learn from the failed attempts that led to this consensus. It appears that we would have greater learning about knowledge concerning teacher education, thus reinforcing joint actions.

Finally, we believe, based on the research conducted, in the potential for a broader conversation about handling problems in this area. The data found suggest that, considering the previously shared knowledge, solving the problems would, in the interpretative plurality, have a greater chance of success, given the critical basis of language. However, although we highlighted the differences in each approach, we did not seek to defend the opposite side, or to affirm that all the approaches are similar and, therefore, they can approximate each other to allow dialogue. In this sense, the discourse could fall into the temptation to subliminally say that dialogue can only happen because, deep down, the approaches are not so different, that is, to express the view that dialogue is the result of equality and homogeneity rather than differences. To the contrary, Habermas insists on the possibility of an intercultural dialogue when he defends the existence of “universal structures of rationality” underlying the “modern understanding of the world” (Habermas, 1987, p. 99).

These are structures that allow the coexistence of differences, the incorporation of contradictions, or what in principle plays the role of denial. We thus understand that it is the differences between the approaches that allows dialogue and

not vice versa, given that the current research contains institutionalized structures of conceptions of subject, object and intersubjectivity that support the maintenance of these differences and therefore the possibility for dialogue.

Thus, we are not defending the suppression of perspectivist understandings because there is no consensus without dissent, but we are advocating the possibility to place them in a critical opening to argument that creates the opportunity for evolutive learning, given the practical needs of the living world. That is, to motivate by recognizing the shared certainties, the continuation of a learning process based on the thematization of the practice with the resistant world and finding in discourse the possibility of building knowledge that is ever more elaborate, given the critical contributions of the interpretative multiplicity. According to Habermas (2004, p. 24), “we can only learn something with the resistance, performatively experienced, of reality, insofar as we conceptualize implicitly questioned convictions and learn from the objections of other parties”.

Thus, in the treatment of common problems, the priority is not the individual defense of an understanding, but the learning process in which the confrontation with the different would force reconsidering the legitimacy of one's own point of view, with the validity of the adjustments measured by the practical consequences of the results. It is clear that the establishment of conditions for building a better dialogue between the approaches does not mean that it will happen automatically. To walk the paths leading to this agreement, researchers in the field must leave the comfort zone produced by discursive relativity, insofar as they feel provoked to better understand the issue. If this objective has not been achieved by research in the field of teacher education, it is because they failed to sufficiently explore this potential sufficiently, which would allow taking the continuous steps in the long journey in the search for understanding.

For the research by the various groups regarding teacher education to be respected, it is essential that we find a common vector of regulation of confrontation and dialogue between these groups; otherwise, we will remain hostages to the miniscule and capillary controls that are imposed, in violation of the freedom of individual invention and creation of the different theoretical perspectives. This common vector is supported by the very resistance of the real world. That is, the regulatory form of dialogue and confrontation would be the knowledge we learn in dealing practically with the objective world, that is, what would then count, is what really works.

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