

Concept of Identity and its Contribution to the Discussion of Mathematics Teachers

Translated from Portuguese: Conceito de Identidade e sua Contribuição na Formação de Professores de Matemática

Andréa Souza de Albuquerque¹

Tadeu Oliver Gonçalves²

ABSTRACT

The purpose of this article is to analyze how Hall (2004), Ciampa (2001) and Dubar (2006) present the concept of identity, in order to make an analysis from this concept above all, around their contributions to the proposals for continuing education of mathematics teachers with regard to the personal and professional identity of these teachers. To address the training of mathematics teachers, we take as a reference Fiorentini and Oliveira (2013) and Nóvoa (1992) to address continuing education. For the study it was used a bibliographical research. The methodological treatment of the research was of qualitative typology. The study points out different perspectives on the concept of identity. The authors converge on the social transformations, which generates constant crises, causing the change in the idea of fixed personal identities, and immutable and the need to review personal and professional identities, especially those related to professional teacher training.

KEYWORDS: Identity. Teaching Identity. Teacher Training.

RESUMO

O objetivo deste artigo é analisar como Hall (2004), Ciampa (2001) e Dubar (2006) apresentam o conceito de identidade, a fim de fazer uma análise a partir deste conceito, sobretudo, em torno de suas contribuições para as propostas de formação continuada de professores de matemática no que concerne à identidade pessoal e profissional destes docentes. Para tratar da formação de professores de matemática, tomamos como referência Fiorentini e Oliveira (2013) e Nóvoa (1992) para tratar da formação continuada. O estudo foi realizado por meio de uma pesquisa bibliográfica, e o tratamento metodológico da pesquisa foi de tipologia qualitativa. Dessa forma, o estudo aponta diferentes perspectivas a respeito do conceito de identidade, ao mesmo tempo em que os autores convergem

¹PhD student at the Graduate Program in Science and Mathematics Education - PPGECM of the Federal University of Pará. E-mail: andasouza2014@gmail.com. ORCID: <https://orcid.org/0000-0001-8086-165X>.

² PhD Professor working at the Graduate Program in Science and Mathematics Education (PPGECM/IEMCI/UFPA). E-mail: tadeuoliver@yahoo.com. ORCID: <http://orcid.org/0000-0002-2704-5853>.



quanto a transformações sociais, o que gera crises constantes, acarretando tanto a alteração na ideia de identidades pessoais fixas e imutáveis quanto a necessidade de revisão das identidades pessoais e profissionais, principalmente as relacionadas à formação profissional de professores de matemática.

PALAVRAS-CHAVE: Identidade. Identidade Docente. Formação de Professores.

Introduction

This article presents the result of a study carried out in the doctorate course, under the Post-Graduate Program in Science and Mathematics Education of the Federal University of Pará. The objective here is to understand how the authors Hall (2004), Ciampa (2001) and Dubar (2006) present the concept of identity, to make an analysis from this concept around their contributions to the training proposals of mathematics teachers, especially regarding the personal and professional identity of these teachers. This study is part of an ongoing doctoral research aimed at critically reflecting on the production and reconfiguration of teachers' identity, specifically of teachers who teach mathematics in the Municipal Education Network of Belém, in order to better understand the concept of identity, the approaches and differentiations analyzed among the authors in order to clarify the conceptual epistemological basis. It is an extended bibliographic research with the readings and discussions developed in the discipline Epistemological Basis of Research in Education in Sciences and Mathematics.

The method used was the bibliographic study, taking as theoretical basis three authors who develop studies on identity: Claude Dubar (2006), with the work *The Crisis of Identities: the interpretation of a mutation*; Stuart Hall (2004), with the book *The Cultural Identity in Postmodernity*; and Antonio Ciampa (2001), with *The Story of Severino and the History of Severina: an essay on social psychology*.

From this perspective, thinking about the professional identity of mathematics teachers requires, as Sánchez Gamboa (2012) points out, taking into account certain important aspects of the research process in education: the questioning about the empirical investigation of the educational reality, the need for a reflection on the context of research and the importance of a qualitative study on the methods used and their epistemological assumptions.

The author defends that the scientific methodology is presented in two moments. The first corresponds to the formulation of the question, when there is articulation with the problem, its indicators and the questions that qualify this question as clear and concrete. The second moment is with the elaboration of the answer, for which the research must present a forecast about the possible forms of construction.

In order for such a movement to take place in the right way, it is necessary to appropriate theoretical references that allow the logical articulation of the elements of knowledge construction (techniques, methods and theories, epistemological assumptions).

Sánchez Gamboa (2012) is categorical in stating that all research in education must contemplate the historicity of its object, considering the characteristic temporality of educational phenomena, due to its social nature. This is what should happen when research is carried out on the identity of teachers, because there must be a contextual rescue of their identity over the years, as well as of what has been understood around this issue in research.

Given the research approach to be carried out with mathematics teachers who participate in the continuing education courses offered by the Municipal Education Network of Belem, we feel the need to deepen our studies on the concept of identity, understood in these terms as interaction between the subjects and their personal and social trajectory, from the point of view of the sociology of work and social psychology. In this sense, we start from identity from the point of view of social psychology, in the reflections undertaken by Antonio Ciampa (2001), object of the next section.

Identity according to Antonio Ciampa

In his book *The Story of Severino and the History of Severina: a social psychology essay*, the psychologist Antonio Ciampa (2001) carries out a study and analysis of social psychology through the story of Severino (a character in fiction) and the story of Severina (a real story). The objective of the study is the understanding of identity, so that it demonstrates the continuous process of transformation that the subject goes through throughout life.

From this perspective, in a critical and creative way, it presents the concept of identity from the initial question: "who am I? According to him, from the moment we are born, we are represented by a name and, through our name, we have the indication of the singular (indicated by the 1st name) and the general (indicated by the name of our family), that is, the name differentiates us within the family context and the surname is what includes us and what recognizes us as members of this family; however, our name is not our identity, because the name, alone is static, has no relations, and is constituted as a representation of this identity. It is, therefore, identification with roles that also corresponds to a predication and places us as a character in a story.

Among these identifications, it is important to point out the professional identification, which is the object of analysis in this work. The name, in this sense, is related to an action: to be a farmer, a math teacher, a banker, a samba player, is expressed by nouns and by adjectives corresponding to a collective doing that builds our identities. To be identity, the name must be related to a work, to an action, with relationship.

Identity is a consequence of social and human relations and their conditions, it is always in transformation; since there are differences during the process of identity construction. On the other hand, there are also certain aspects that equal, in the sense of approaching those who play the same professional field (CIAMPA, 2001).

For Ciampa (2001), the concept of identity is "[...] the recognition that it is the person who is involved; it is what proves to be a determined person and not another" (CIAMPA, 2001, p. 137). It also points out that identity is difference and equality, since there are aspects that make us equal and that distinguish us from others.

Math teachers, when it comes to differentiated identities, may have experienced differentiated personal and formative pathways - some may come from families with a certain purchasing power and able to support the period of study without having to work, while others may have had to work during the study process in order to guarantee their livelihood, a fact that differentiates them from their initial formation. On the other hand, both may have gone through continuing education courses and adopted similar methodological perspectives during their classes with students in basic education, which equals them as mathematics teachers.

The identity is related to changes, metamorphoses that we experience. Therefore, reality represents this movement, of changes, at each period experienced by the human being, with individual and social transformations, intertwining subjectivity and objectivity.

Identity is always movement, acceptance or denial, a dialectic process of becoming, which is why we end up seeing ourselves the way we are represented by society and sometimes we reinforce these roles that are imposed on us, such as being a teacher. We cannot, therefore, be one true subject, because we are represented and we represent ourselves constantly. The permanent changes of my characters are dialectic, historical and social.

In the conception of identity in Ciampa (2001), we have, in fact, several identities that are used separately, at different times. However, the person is a totality and, in those moments, what happens is the manifestation of a part of the unity. But it

is important to consider that even with different identities and constant changes (metamorphosis) our identity is a totality.

The concept of identity is intrinsically related to the social context, more specifically to the capitalist system in which we live. In this sense, capitalist society produces chaos or alienation, denies the human being and places him as a thing, an object at the service of the economic system. However, the world is produced by this man who was denied, dehumanized, where this same man only becomes man and is considered as such by society because he produces. In the capitalist system, the capital is the subject, the core, the main, and man is the attribute, the secondary.

The social structure in which the subject is inserted in a certain way influences and even, as Ciampa (2001) points out, conforms to certain patterns of identity. Thus, despite reflecting on his social context, the subject acts to maintain the social structure, which means perpetuating the totally capitalist, individualist and consumerist world, his identity being denied because he leaves himself on the margins of the process. The process of building and developing the identity of the individual, during his life journey and in his social environment, produces at each moment differentiated people.

Thus, it is about the perception of identity as a process, which is transformed and modified over time and the teaching career, without forgetting the relationships with macro issues, such as the political, economic and cultural system in which we live, in which we are a peripheral country of a capitalist system, aspects that should also be taken into consideration when analyzing the construction of teaching identity. Identity reflects the social movement, its changes, which brings about certain transformations in the teaching activity.

In this sense, Ciampa (2001) makes his analyses within a historical, social totality, and analyzes the subjects and their identities within this totality, as part and reflection of it. He points to the negation of this totality and to the construction of "new" possibilities of society and relationships to be built. Epistemologically, Ciampa (2001) sustains his approach in dialectics, in critical Marxism, with reflections that suggest new paths to be thought of in research.

Identity is related to changes in each period experienced by the human being. Therefore, during the course of Severina's history, the author exemplifies with countless factors the individual and social transformations the character goes through, interweaving subjectivity and objectivity.

In this sense, the author signals that the social structure shapes the patterns of identity. The individual reflects and maintains the social structure, which sometimes means perpetuating the totally capitalist and consumerist world, so that the subject's own identity is denied.

For Ciampa (2001), the self-preservation of the human being is reflected rationally, since the subject must be considered as an active and critical actor, who exercises his participation in a collective way, and not as a simple plaything. By developing identity throughout life, the human being produces in his social environment differentiated characters at each period, which means a process of self-preservation of the human species.

From the perspective of identity, man's meaning prevails in life, in the social world. But the capitalist society corrupts and reverses this process, since instead of conducting itself, it is conducted.

In Severina's history, it was possible to observe some of these characteristics, since, at the same time she developed her identity, she went through setbacks, blocking her production, in her own existence. Work is one of the predominant characteristics in relation to identity, and the meaning of the term work represents something fundamental in society.

In this way, the work as the constitution of the subject will be indispensable in the relation of the teaching work with the identity of this professional, since it is through the work that the subject also shapes his identity, by differentiating and equalizing himself in relation to other professionals. When he chooses his profession, being a mathematics teacher at the same time as differentiating himself from other professionals is the same as in his field. By working in public schools, he builds certain characteristics that, at the same time as differentiating himself from others, make him the same as other public teachers, with the same working conditions, salary, values and representations about the role of education.

However, beyond Ciampa's (2001) conceptions, focusing on a sociological vision, the identity crisis arises, according to Claude Dubar (2006), the object of explanation proposed below.

The crisis of professional identities according to Claude Dubar

For his part, Claude Dubar (2006), professor of sociology at the University of Versailles, Saint Quentin, France, and author of the book: *The crisis of identities: the interpretation of a mutation*, develops studies that go beyond the concept of identity,

since he makes a deeper and more historical analysis, in which he argues that, in fact, we live a crisis of identities, especially of professional identity.

In the work, the author proposes an analysis of the relations between the crisis of modernity and the crisis of identities, crises that are not separated and that devalue community forms of social insertion, without managing to impose new societal forms. In this bias, the crisis that became more acute after World War II, which is not only economic, is an anthropological crisis that puts at stake the myths created in modernity: of progress, science and formal democracy.

According to Dubar (2006), the crisis of modernity is also a crisis of personal identities, a consequence of the transformations that have taken place in three important areas of social life: mutation in gender relations and profound changes in family relations; mutation in the world of work and jobs and consequently in training and schooling; mutation in the nation-state and its institutions, which has brought about changes in legitimacy and representative democracy.

Thus, personal identity is no longer transmitted by institutions, in a linear way, nor inherited from socio-community contexts, but has become an identity constructed by individuals themselves, in the course of their life trajectories. With the contributions of these trajectories, therefore, identities emerge as a result of the interactions between the individual and the institutional self. According to the author, this brings about a change in the paradigm and perspective of determinist sociology, which previously devalued subjectivities, which now need to be taken into account, at the interface with social determinations that no longer take into account the diversities of individuals and their concrete trajectories. Thus, it is necessary to adopt new methodologies and other modes of approach, with the contribution of other sciences, such as psychoanalysis and linguistics, for a better understanding of ongoing mutations.

On the concept of identity, Dubar (2006) looks for it in Greek philosophy, by adopting the conception based on Heraclitus, for whom there are no eternal essences, everything is submitted to change. "The identity of any empirical being depends on the time considered, from the point of view adopted" (DUBAR, 2006, p. 8). Thus, identity is not what necessarily remains "identical", but the result of a contingent "identification".

Claude Dubar (2006) points out the crisis of professional identities, with significant reflections on work, conceived as something that is undergoing vertiginous transformations, surrounded by uncertainty due to the new forms of organization of

economies, with a need for continuous personal investment - which is why it is no longer a prescribed obligation, in which the worker should obey, since it now depends on individual and collective creativity. Competition is growing among workers themselves, as well as competition between companies, with reduction of formal jobs and rationalization of human resources.

Thus, the idea of competence gains strength, which vulgarly comes to mean knowledge, knowing how to do, knowing how to be, what is expected in terms of the worker's qualities, such as initiative, responsibility and teamwork.

Faced with this, the crisis that occurred in the world in the 1980s led to unemployment in the following decade, 1990, and to the idea of "company identity", according to which employees with years in companies, with long careers and costly training operations, lose their place to a new notion of employability, in which each employee starts to assume responsibility for the acquisition and maintenance of their own skills. The school or the company is no longer responsible for the process of acquiring the skills required of the individual to face the labor market, but the individual himself. Employability consists of remaining competent and competitive in the market (DUBAR, 2006).

In this context, the "category's" identities of the trade, linked to an organization, enter into crisis, and the identities constructed from social conflicts, more of a "professional" origin of wage-earners' collectives, enter into the scene.

The State is the main recipient of these new configurations, but it is not the only institution to suffer conflicts, since other movements also suffer from their repercussions. Thus, two poles begin to divide over identity in the face of the situation: a group that does not assume, as in the past, a "collective memory", which entails suffering from conditions of social devaluation. We find ourselves at the crossroads of two paradigms, two ways of seeing the process of building individuality and social group. In the first, there is a strong predominance of the social component, such as class relations, wage exploitation, domination. In the second, a new component, at the same time personal and "societal", a crucial element of what the author calls the "crisis of professional identities", is slowly taking hold.

The context of crisis, proposed by the author, can be compared to that experienced by Brazilian society; as a consequence, workers, especially teachers, also suffer the results of this process, with the intensification and precariousness of working conditions, which worsened from the 1960s, when there was a significant increase in students enrolled in public schools. In this context, the demand for

teachers is growing, leading to an excessive workload, with overloaded teachers, devaluation as a professional, temporary contracts, lower salaries, increased responsibilities and tasks/activities assigned to them, factors that generate a change in the profile and professional identity of teachers entering the career.

In the same vein, based on contextual analyses of identity crisis, they follow the contributions of Stuart Hall (2004) on cultural identity in post-modernity.

Stuart Hall and identity in post-modernity

The conceptions of identity present in Hall's reflections (2004) permeate the subject since the Enlightenment. Following a historical line, the author distinguishes three conceptions of identity of the human being. The first is the subject of the Enlightenment, an individual centered and endowed with the capacities of reason, which expresses an individualistic vision of the subject, in which the capacity of reason and consciousness prevails. Thus, the subject is understood as the bearer of an inner core that emerges at birth and prevails throughout his development in a continuous and identical manner.

The identity of the sociological subject is present in the modern world as that which is not independent, since it is formed by the relationship it establishes with others. With this, the author considers the complexity of the modern world and recognizes that this inner core of the subject is constituted by the relationship with other people, whose role is the mediation of culture. The subject is constituted in the interaction with society, in a continuous dialogue between the external and internal world.

In turn, the identity of the postmodern subject is not fixed, thus promoting this debate around the identity crisis. In this conception, the subject does not have a permanent identity, but is continuously formed and transformed, suffering the influences of the ways in which he is represented or interpreted by different cultural systems. The vision of the subject assumes historical and non-biological outlines and the subject adheres to diverse and sometimes contradictory identities.

The subject in post-modernity is confronted with numerous and changing identities with which it is possible to identify, but always in a temporary way. New identities in a world in constant transformation emerge continuously. Therefore, the author suggests that it is not possible to offer conclusive statements about the concept of identity, since it is a complex aspect that involves multiple factors.

He then presents the concept of "cultural identities" as aspects of our identities that arise from our "belonging" to ethnic, linguistic, religious and, above all, national

cultures. It also argues that current conditions in society are fragmenting the cultural landscapes of class, gender, sexuality and nationality that had provided us with solid locations as social individuals in the past.

In view of this, the process of globalization has brought as one of its perverse consequences the disintegration of national identities, previously fixed and stable, as a result of cultural homogenization and global post-modernism, which generates an opposite effect. For this reason, national and local identities are being strengthened by resistance to globalization. National identities are on the decline, but new identities - hybrids - are taking their place. Such transformations are altering personal identities, influencing the idea of an integrated subject that we ourselves have, a phenomenon that generates an identity crisis.

It is also worth pointing out that, according to the reflections proposed by Hall (2004), although postmodernity is defended by certain theorists, its identity is not yet something finished, closed, but is an ongoing product of history and culture.

Besides Hall's reflections (2004), another important author portraying the concept of hybrid is Bruno Latour (1994). The word hybrid for this author is used to demonstrate the illusion created by modernity that it would be possible to isolate the domain of nature, of innate things, of politics, of human action.

Modernity has nothing to do with the irruption of science nor with the secularization of society, much less with the mechanization of the world (LATOURE, 1994, p. 40). In fact, it has to do with the joint birth of the "non-humanity" of things, objects and beasts, so modernity would be a constitutional separation between the natural world and the social world (LATOURE, 1994, p. 19). A constitution so sophisticated that it allowed for a process of "purification," from which two entirely distinct ontological zones emerge, that of humans on the one hand, and that of non-humans on the other. (LATOURE, 1994, p. 16). It is as if the modern constitution has created a chasm between nature and society (LATOURE, 1994, p. 86). In this abyss between nature and society, human and non-human, are the hybrids of nature and culture from which the modern work of purification has tried to free itself.

The author also points out that modernity has been the victim of its own success. This idea portrays the notion that collectives have increased hybrids so much that it has become impossible to keep them in their places. This growth of the same has saturated the constitutional framework of the modern. Thus, this situation can be understood as if the Constitution did not support and was drowned by the

very modes of experimentation it allowed, as if there were not enough critics to treat hybrids.

From this perspective, the society is in transformation and such changes end up altering the idea of fixed, linear and immutable personal identities. The crisis generates the need for revision of personal and professional identities, especially those related to professional teaching, since they deal directly with the training of people, students, which requires knowledge that is always up-to-date in teaching, factors that will be more detailed in the following section.

Identity as a concept under construction in the training of mathematics teachers

The concept of identity is understood by Ciampa as a process in which the human being is transformed, in the face of the personal and professional experiences through which he or she goes through over time and professional career, following the example of teaching. Moreover, there is a macro relation to be established, since the economic and cultural system in which we live is a peripheral country to the capitalist system, issues that should be considered when building teaching identity.

If we consider the right to universalization of access to primary education, from the 1988 Federal Constitution and the educational reforms promoted since then in Brazil, we see how the number of students enrolled in schools has increased significantly. This occurred without the adequate contribution of resources and investment necessary to the educational sector by the Brazilian State, marked by an economic and social context of technological advance, by the rapid dissemination of information, resulting in new forms of social and labor organization, which generated a crisis in professional identities, since in this scenario production requires another type of worker, with differentiated skills, flexible and able to adapt to the new demands of the globalized market. The identity reflects the social movement, its changes and how they bring about certain transformations in the teaching activity.

According to Ramalho and Carvalho (1994), in the current context one cannot deny the new social demands that have been placed with the intention of democratizing access to education for all people, marked by the inclusion of new subjects in the school context, because it is precisely in this context that new challenges arise for teachers.

Thus, something new needs to emerge, in a movement that does not fit into the conventional assumptions of the paradigm model of initial teacher training, especially those of mathematics, which took as a reference the technical rationality,

originating in positivism, which served as a parameter for the education of professionals during the twentieth century, when professional activity was conceived as instrumental, with the objective of solving problems through the rigorous application of scientific theories and techniques. The professional, in this perspective, is seen as someone who must apply the theoretical knowledge learned without taking into account that each life situation and concrete problems have their context, are singular and unique, differentiated and cannot be summarized as merely instrumental problems, with the application of theoretical means and procedures, forgetting the moral and political character of human professional action (PÉREZ-GÓMEZ, 1992).

In this sense, the debate and studies about teaching as a profession and the professionalization of teaching as alternatives to think about the construction of new roles, new identities for teaching and for the teacher are expanded: what, in fact, is configured as a paradigmatic change (DUBAR, 2006).

At the beginning of his professional life in schools, the math teacher is faced with a reality neither experienced nor discussed in the academy, with a workplace in which he works in the public-school network in precarious schools, with rooms with a considerable number of students who are not interested in learning the school content, undisciplined, lack of teaching materials and technological resources, which compromises the teaching and learning process. In turn, this process generates a mismatch and an identity crisis, according to the concept of Dubar (2006), especially among math teachers, since they are the ones with the greatest workload and feel closely the educational difficulties of students and schools.

With regard to research on the working conditions of mathematics teachers, we refer to the work of Freitas (2006), Castro (1995) and Borges (2002), who indicate the need for specific support for beginning teachers in schools, with the existence of spaces for reflection on teaching practice.

With regard to the professional identity of teachers, this identity has been undergoing, as in other professions, significant changes, the fruit of changes in the market, according to the analysis undertaken by Dubar (2006). However, the teaching profession has always been the target of constant crises, because of a certain historical vision that society has of what it is to be a teacher; with this, the teaching profession has been configured, in the eyes of the other, as a work that any person could do.

The identity of the teacher is a process of construction of the subject and of the social and historical group, that is, it is a way that the teacher has to understand

himself in a certain context, subject to definitions and redefinitions in relation to others and to his professional group. The teaching profession emerges and develops in contexts and historical moments as a response to the needs that are posed by educational policies, by the Education Departments of the States and Municipalities of the country, by the schools where they operate and by society and its social, economic, political and cultural conditions, and in the processes of valorization and devaluation to which they are subject.

According to Stamberg and Nehring (2018), mathematics teachers teach the subject in the school context prioritizing content, with deductions of formulas and demonstrations, with teaching method based on expository lessons, with transmission and reception by students. However, with the current irruption of new identities, considered as hybrids, whose transformations are altering personal identities, influencing the idea of integrated subject that we had previously, a crisis is generated in this form of teaching and in the teaching identities, which need to be modified in order to meet this reality (HALL, 2004). This goes beyond the knowledge of content, as teachers need to review their way of teaching in order to reach the postmodern youth who arrive in schools and understand how they learn.

According to Fiorentini and Oliveira (2013), educational practice in mathematics is a social practice, built by knowledge and complex relationships that need deepening and, therefore, transformation. Thus, mathematics is a knowledge of relationship: in relation to oneself, to the other and to the world. Therefore, mathematics is always situated in a concrete social practice, from which directions and forms/contents of its own emerge, being known and validated by work.

The teacher's mathematical knowledge cannot be limited to the conceptual and procedural aspects of school mathematics. This brings school mathematics closer to the practice of producing it, with possibilities for reformulation, breaking with the conception of pure, exact mathematics, enabling other reflections on the content of mathematics in the school context.

The training of teachers, according to Veiga (2007), is a right, part of public policy, and underlies a conception of unfinished, inconclusion, linked to the life history of people in constant process of construction. It is a continuous and progressive action, involving different instances and valuing the experience of teachers as a training component. Therefore, it is linked to their social, political and economic context; committed to the emancipatory and inclusive perspective. Therefore, the preparation of teachers to deal with uncertain situations must be

articulated to personal and professional training, and to a collective process of teacher construction, articulated with schools and their projects.

Continuous training must value the practice of teachers in the daily life of the school, the socialization of knowledge among teachers and the exchange of experiences, in addition to providing group studies, debates, construction of new knowledge, in order to articulate theory and practice in the training and construction of professional knowledge of the teacher. Thus, training practices with collective dimensions contribute to professional emancipation and to the strengthening of the educator's profession, as it produces his knowledge and values.

For Nóvoa (1992), training is not built on the accumulation of knowledge, but on the moment in which the teacher who has a set of experiences regarding his teaching activity is able to reflect critically, supported by theories about his practice and is able to reconstruct a professional and at the same time personal identity about his work and his life.

Faced with these realities, the process of continuous training for mathematics teachers and teachers in other areas makes it possible to contribute to the reconfiguration of the professional teaching identity, considered in the perspective of Ciampa (2001) as a constant process of modification and transformation of the teacher, although for this to happen it is necessary to consider the formative needs of teachers and listen to their difficulties. The insertion of the discussion on the professional teaching identity can be a proposed strategy in the continuing formation capable of helping in the reflection on the teaching profession, the way they see themselves as professionals and how other colleagues see them, a moment when teachers can reflect on the needs of their work, always in search of improvements in the teaching process.

Reflections not to conclude

In addressing the concept of identity according to the questions posed by Antonio Ciampa (2001), Claude Dubar (2006) and Stuart Hall (2004), the aim was to discuss how these authors present the concept and to understand its contribution to the process of establishing the identity of mathematics teachers.

In the course of the study, we verified the relevance of studies on teachers' professional identity as a contribution to the field still little revealed in studies on teacher training. Thus, we perceive the existence of significant elements that contribute to reflections on the professional identity of teachers.

Initially Ciampa (2001) relates the concept of identity to what we are as individual beings, as persons, but this personal and individual identity, represented by the name that recognizes us and makes us members of a family group is static, does not define us completely. Beyond the individual, it is important to relate identity to action. In this sense, a collective doing, the relationship established with others, when choosing or referring to the exercise of a profession, takes shape. In the specific case of teaching, the work in school institutions, this action fruit of relationships is what gradually contributes to the construction, deconstruction and reconstruction of our identities as professionals.

The professional teaching identity is the consequence of these relationships and of the conditions of this relationship, being reset and reconfigured at each moment, with the new work contexts. Therefore, the professional teaching identity, like the other professions, is something that is in continuous process, always in transformation.

In teaching, the teacher sees himself as an individual in a certain way, but he suffers the influences of the context in the construction of his professional identity, by the way society represents him - devalued, with low salaries, acting in schools with precarious infrastructure, among other conditions.

In this sense, the context and the social structure somehow shape the patterns of this professional identity. However, in teaching, during the continuous formation processes and in contact with his peers, the teacher is able to reflect rationally, critically and to transform and modify his professional identity, although he is also subject to setbacks in the course of this process.

Dubar (2006) also contributes to a better understanding of the construction of the teaching identity by highlighting the professional crisis experienced by contemporary society, which has consequences on the teacher's performance, since the economic, political and cultural context of Brazilian society requires a better qualified professional, with new knowledge, with more flexible, dynamic and multicultural curricula, able to analyze the context and teach students about diverse subjects, with differentiated theoretical and methodological references.

However, the professional identity to be built by teachers suffers from the pressure, without having adequate conditions, because they remain socially devalued.

According to Fiorentini, mathematics teachers who work in basic education "are subjects of knowledge that can develop professionally, mobilizing and producing

knowledge that is characterized as complex, plural, reflexive, contextual and that results from learning situated in the practices of teaching and learning" (FIORENTINI, 2011, p. 8).

The process of continuing education provides mathematics teachers with moments of reflection on their professional careers, the paths taken, as well as the study of theoretical references, which are the aids to practice. It is a need that arises and that offers instruments to understand the dynamics of schools and the challenges of teaching work, in constant didactic, methodological or technological change, because only by understanding and acting on change is it possible to intervene and act on it in a more dynamic and meaningful way.

The paradigm of the crisis occurs as a result of the educational reforms to which teachers are subject and the structural conditions of society, in which there are continuous changes in the role of the State, in labor relations and in the social demands that are intensifying. The analyses proposed by Dubar (2006) help us to better understand this phenomenon, bringing diverse repercussions to the teaching work, causing the teacher to be increasingly charged in his or her duties. On the other hand, the professional valorization - like better salaries, quality training processes and better working conditions - still remains watertight, despite the demands, fights, strikes and demonstrations for better living and working conditions.

Dubar (2006) takes into account the professional context in which the lecturer is involved, since the work carried out will influence his/her identity building process. For Ciampa (2001), in addition to the context of work, it is important to emphasize that identity construction implies transformation, change, and the human being is a historical, social whole, being part and reflection of the capitalist society that lives, with the capacity to transform. Stuart Hall (2004), in turn, also points out the changes to which people are subjected and, therefore, their identities are modified.

The reflections proposed by the authors help us to better understand about professional identity, the context in which the construction of the professional teaching identity is involved. Thus, these aspects can shed light on future and deeper reflections on the identity of the mathematics teacher and contribute to transformations in teaching practices, as well as in their way of seeing and conceiving the world, reconfiguring the identities, especially the professional identities of teachers working in the teaching of mathematics.

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