Contributions of the History of the Mathematical Education to the teachers education

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ABSTRACT

The objective of this study is to analyze the potentiality of the history of mathematical education to the complex field of the education of the basic education Mathematics teacher. Considering that the historical knowledge is of great importance for the education of this professional, this text has been organized in three segments: the first deals with the absence/presence of history in the education of the Mathematics teacher; the second treats the norms and practices that give meaning to the school mathematics; the third focuses on the professional past of the Math teacher. At the end, it emphasizes the role of the history of mathematical education in the reconstitution of the professional identity of the math educator.

Keywords: history of mathematical education, identity of the math educator, school culture

RESUMO

O objetivo deste estudo é analisar a potencialidade da história da educação matemática na formação do professor de matemática, no complexo campo da educação básica. Considerando que o conhecimento histórico é de grande importância para a educação do profissional, este texto foi organizado em três segmentos: o primeiro trata da ausência / presença de história na educação do professor de Matemática, o segundo trata das normas e práticas que dão sentido para a matemática escolar, o terceiro incide sobre o passado profissional do professor de matemática. No final, o trabalho enfatiza o papel da história da educação matemática na reconstituição da identidade profissional do educador matemático.

Palavras-chave: história da educação matemática, identidade do educador matemático, cultura escolar

Absence/presence of history in the education of the Math teacher

In the explanation of the historiographic operation, Certeau (1982) affirms that by making history, the historian “produces something for someone”. To speak about what he produces, he keeps a relationship with a social place, the place from which he tells someone what he produces. Admitting, as Certeau, that history is a fabrication, we acknowledge the existence of a community that has its own place and a specific production.

This image of history as a fabrication, which has its own place, takes us to the observations made by Valente (2005a) that the historian’s task, by producing historical facts, is of “writing history,

historically" and that "by asking how current issues have been naturalized, the historian would be defining his working territory as the one of the History of Education" (p. 25).

Only recently has the history of education focused on the investigation of internal aspects of the school, such as the subjects and the school culture. As Julia (2002) emphasizes, the scientific field of history of education has been changing with time.

> History of Education has been, in its main lines, a political and institutional history, when the fights between the Churches and States were more violent: it meant, at that time, positioning oneself for or against the Jesuits, for or against the French Revolution and its conquests. The history of education modified its nature when high school was "democratized", starting in the 1960's, concentrating on the problem of the relationship between the school success and the socio-cultural inheritance. However, even in this perspective, the process of knowledge transmission at the school remained out of analysis, as a type of general postulate, establishing, *a priori*, some proximity between the values and the *habitus* transmitted by the school (JULIA, 2002, p. 37).

Despite showing "little interest" of education history in questioning the actual teaching practices and the results obtained by it throughout history, Julia acknowledges that the macroscopic knowledge was important because it served as an antidote against false ideologies, such as the teachers' complaints about the decrease of the students', reporting "a golden or mythical era in which the set of students would have acquired the command of language or of Mathematics" (p. 38).

In Brazil, the subject of History of Education has occupied "the position of a subsidiary knowledge" in courses of teacher education. According to Warde (1990), when it was instituted as a subject in those courses, it was, at the same time, detached from the History Field, remaining subordinated to the philosophy and in second place in relation to sociology, psychology and biology, becoming a subject with a moralizing character.

For Carvalho (2005), the curricular composition of the teacher education courses "destined to the subject the main role of supplying a matter for the philosophical reflection on the objectives of education, illustrating the pedagogue by supplying a repertoire of ideas and embodied into large pedagogical systems" (p. 34).

Nowadays, this disciplinary practice has been questioned due to "the redefinitions of the objects, of the criteria of scientific rigor that have been transforming the historiographic production".

> Strongly based on the questioning and perplexities that are its contemporaries, the history of education starts to thematize the perspective of the subjects of the investigated processes, working with the *representations* that the historic agents make of themselves, of their practices, of the practices of other agents, of institutions – such as the school – and of the processes that constitute them. New themes and new approaches gain the

> preference of the education historians, originating new research fields, articulated around investigations about cultural practices, their subjects and products. In the reconfiguration process, the history of education multiplies itself in a plurality of domains, – history of the school subjects, history of the teaching profession, history of curriculum, history of the school book, etc. (CARVALHO, 2005, p. 35).

The renewal of the history of education not only increased its investigation field, but also gave bigger visibility to the historicity of practices and attitudes naturalized with time. This advance has been followed by an intense conceptual and methodological reflection, as Carvalho observes.

As a new subject of the history of education, the history of mathematical education has also been challenged to explain the conception of history that directs its historian practice, to overcome its search for "truth" in a static past that used to take the historical fact as already built, waiting only for an exact description of the historian, without having to problemize it based on the present.

In Brazil, the hybrid field of mathematical education, formed by different epistemological matrixes, has also been subject of questioning about its potentialities for the Math teachers education.

In a more recent study, Valente (2010), emphasizing the different experiences of the use of history in the Math teacher education, such as the History of Mathematics, the History of the Mathematical Education and the Oral History, makes the following observation:

> Thus, it looks like there are already several work experiences with the use of the history of the math education in the education of the Math teacher. They have been, as shown, subject of reflection by the area researchers and their conclusions point to the important role of the insertion of this knowledge in the teacher's education. It seems that there is an unanswered question by the work already done: which history of the math education should be taught in the College Courses? The question sums up the concerns in systematizing a set of knowledge that should be considered fundamental for the teachers education (VALENTE, 2010, p. 130).

Since it is an interdisciplinary field, in the history of the math education there are diverse knowledge areas: history supplying conceptual tools, education offering its historical time, math supplying its contents. To describe it historically, it's up to the historian to investigate the clues left in the present, by the past school habits, not from the referents from math, but with the conceptual tools of history.

One of the ways of making history of math education in a historicized manner, that is, of dealing historically with its object that is the school math, would be to pick up the movement between "saying" and "doing", as Certeau said, establishing a relationship between a discourse and a practice. This way, as a human activity and a social practice, history would follow the steps of a social group,

going to the subjects to look for the meanings given to their actions, trying to understand the "strategies" or "tactics" used by them in the appropriation of a determined cultural object.

Understood as the discursive practice of the school, the history of math education would express not only the school grammar of a specific period, that is the set of norms that would produce a school culture, but also what the school privileged as the necessary mathematical knowledge for the education of the subjects.

In this conception, it would be the historians' responsibility to build historical facts interrogating sources through legitimate questions that would allow the criticism of the documents. Trying to transform the marks of the past into historical facts, the historian faces a complex task when he considers that the criticism to be made to the documents, requires, besides a rigorous look at the characteristics of the material and the coherence of the historical space by which he identifies himself, a good knowledge of the historical-educational contact of the investigated object.

If we analyze the production of the Brazilian Math education, we find few studies that use this historical point of view to understand the arrival of the reforms in the school practices and their impacts on the school culture. Also, the historical analyses of how the school books have been appropriated by teachers and students in different historical periods are recent.

In relation to teaching, the educational projects that include the subject Education History in the Math curricula are also rare. An implication of this absence falls upon the reinforcement of the mistaken point of view that history does not offer any contribution to the teachers' education. Another implication would be the permanence, throughout history, of the representations that to teach Math it would be enough to have the command of the math knowledge and that the pedagogical knowledge is not scientific or even that education isn't a science.
Even though the Math College Courses include in the History of Math their curriculum, recent studies have questioned the pedagogical relevance of those studies for the exercising of the teaching profession (Valente, 2002; Miguel and Miorim, 2004).

Valente (2002) says that many alternatives that have been tested in the practice of this subject "tend to reinforce the character of the education for the *teaching of math* and not for the math education" (p.90). As the author explains, the Curricula Guidelines of 1999, recommending that the subject History of Math deals with the development, origin and evolution of the mathematical ideas, investing only in the mathematical culture of the future teacher, ends up reinforcing the idea that the knowledge with which the teacher works is directly the scientific knowledge.

> [...] reinforces the idea that the knowledge the teacher uses in his pedagogical practice with children and adolescents is the knowledge of the mathematicians. This way, removed from this knowledge, the teacher needs first to learn it, and, next, learn how to teach it. We are facing the old 3+1 formula, that is, Math + Didactics. The old objectives of education for the math teaching are still valid (VALENTE, 2002, p. 90).

By investigating a cultural object, such as school math, the historian of the math education is induced to question the several fields that have given a meaning to this curricular component, the connections kept with other cultural practices, considering that its history does not occur separately in space/time. For this, it needs a method, so that the present may dialogue with the past and which allows the understanding of the continuities and ruptures that have marked the school culture in different historical moments. This method, by placing the object (school mathematics) in dialogue with the social body, expresses a conception of making history that conceives every culture always as a culture of a group, which means placing the investigated object in the educational temporality.

Norms and practices: the history of the subject and the school culture

According to Chartier (2007), the big challenge presenting itself to the cultural history is "how to think the articulation between discourses and practices" (p.67).

Making math education cultural history requires, above all, understanding how, in certain historical moments, the curricula reforms that proposed altering the school math have been used by the main transforming agents – teachers and students – and which meanings the appropriations of the new curricula matrixes have given to the complex school culture. In this perspective, the history of math education has shown that the protagonists of the reforms have assumed positions and acted purposely, has indicated that the disciplinary practices of the school, as all the cultural practices, are permeated by control mechanisms that give objectives to the school education.

According to Chervel (1990, p.188), the complex objectives of a school subject are not disconnected from the history of their teaching. Its study starts in the *corpus* of the subject, in the series of official programmatic texts, ministerial discourses, laws, decrees, agreements, instructions, leaflets, setting the study plans, the programs, the methods, the exercises, etc."

Looking at the past school culture, the historians of the math education that develop such epistemologic project, analyzing the reinventions of the reforms from the questioning of several sources have tried to answer lacunar questions of the present.[1] Orientating their research from the

[1] The research being done in Brazil by GHEMAT (Group of History of Math Education) stands out.

theoretical concepts and methodological procedures searched in the Field of the cultural history, the followers of this historical approach have constituted a dynamic learning laboratory of the historiographic art, concentrated, mainly, in the deconstruction of the representations naturalized throughout history in the Professional practices of the teachers.

These pieces of research have emphasized, in the contexts of the different international movements of modernization of the school math, the actions of central figures of the Brazilian math education, such as the relevant role of Euclides Roxo in the constitution of the Math subject, in the 1930's; of the pioneering and enterprising action of Osvaldo Sangiorgi, in the dissemination of the Modern Math Movement (MMM), not just showing ideologies, polemics and resistances that have marked the trajectory of the school math of the basic education in Brazil. Connected to the international events, these historical studies have given visibility to the meanings that representatives of different countries have given to their actions, by investing efforts in search of a mathematical education of the best quality.

The recent projects of international cooperation have allowed opening of frontiers and emphasized dynamic spaces for the circulation of ideas marked by differences and divergences between the local and transnational education. This has allowed the understanding of history as the reading of time, which, according to Chartier (2007, p.81) when it distances itself from space/time to visualize the present better, contributes to "non-dissociable union of the global and the local".

In these stories, a simple school notebook, a school book and a math test are discourses representative of a past that doesn't exist anymore, but which has left traces in the ways of using a new program prescribed to attend to a large educational project of its historical moment.

The production of the school material is always a witness of a time that has passed and has left traces of meanings to be interpreted by the future generations. The number and quality of the exercises, the didactic manner of presenting the subject, the evaluation practices, are important evidences for the understanding of a professional past/future from present issues.

As Chervel (1990) said, in each era the school subjects are at the service of a determined educational finality, not restricting themselves only to the explicit and programmed teaching. Their real objectives are not found only in the official texts and to get to know them it is necessary to understand "why does the school teaches what it teaches?" going to the pedagogical reality.

Examining Arithmetic, Geometry, and Algebra notebooks of a high school student in the 1940s, the historian may ask about which objectives were reached by those school subjects in the student education.

Analyzing *Reforma Capanema* it is possible to understand that in Brazil the high school programs of that period concentrated in the education of the driving elite of the country, as minister Gustavo Capanema had announced in his renowned speech that emphasized the classical culture of the high school education of the Vargas era. *Mathematics*[2] fulfilled its disciplinary role of cultivating the mind of the privileged portion of the population that had access to high school. Contextualized in the sciences themselves, the subjects invested in the mental organization, in the refined thinking, in the memorizing abilities, considered important for the scientific culture yearned for in the beginning of the industrialization in Brazil.
The notebook records showed traces of a professional culture of the teacher, centered in the command of contents that implied on the training of the brain through an exhaustive resolution of exercises.[3]

Reconstituting the facts, the historian tries to understand the profile of the high school teacher in the republican project. The teacher, usually an engineer, was the holder of the mathematical knowledge to be transmitted to the student, with all the formality, strictness and abstraction of the science, with the characteristics of the cultural capital desired for his acceptance by the university and participation in the country's driving elite.

After two decades, the practices described were highly challenged. Within a movement of expansion and democratization of the high school, Math starts to be considered a language of the sciences and techniques that should perform its own *aggiornamento,* updating and modernizing its teaching from the notions of set and structure.

With the imprints of Bourbaki and Piaget, Modern Math comes to light as a fundamental element in the formation of individuals, in a world marked by the prominence of science and technique, in opposition to an agricultural and handmade society that has been vertiginously annulled by the advances of capital.

However, as the recent historical studies on the MMM (Modern Math Movement) indicate, it seems that all the pedagogical apparatus idealized to modernize the school math has not been sufficient to

[2] Even though the *Reforma Francisco Campos,* integrated the different mathematics into one subject in 1931, the high school attended by the author of the notebook still maintained, in the 1940s, the teaching of Arithmetic, Algebra, Geometry and Trigonometry in separated subjects.
[3] The book used, "Notions of Algebra - Elementary Course" (F.T.D. Collection) - 1924, had 1000 exercises.

guarantee the desired “scientific education” of the population, considered indispensable to prepare the new generations for the fast advances of the technique and science.

At the time of the decline of the MMM, Piaget criticized the mistakes committed in the practices of the Modern Math, saying: “Even though the content taught is 'modern', the manner of presenting it remains sometimes archaic from the psychological point of view, while based on the simple transfer of knowledge (Piaget, 1984, p.14).

In this sense, the historians cannot underestimate the weight that the *representations* have in the school culture. By saying that school subjects are one of the most creative cultural productions of the school, not limiting their object to the reference area (the math science), they establish a fruitful dialogue with the social body.

Thus, knowing the past of a school subject and its cultural imprints allows a better visualization of the present and understanding of the continuities and ruptures of our professional culture compared to the one of the agricultural Brazil that gave its first steps in the industrialization.

What has changed in our manner of working the mathematical contents, in the manner of using the school book, of evaluating the learning of the students, compared to the practices of our professional ancestors? By thinking about his professional past, today’s teacher may ask about the subject model that emanates from his professional gestures and how he would be inscribing, in the present, knowledge from his professional ancestors, modeled for a globalized world.

The history of the mathematical education, by confronting norms and practices, intents to apprehend the movement between the official discourses and their school appropriations, showing that the professional knowledge, as a cultural product, also has its own manner of production, challenging us to question “which representations” of the past have contributed to make us the professor we are.

The professional past of the Math teacher

Nóvoa (1998) affirms that the legitimating of the scientific field of education has been marked according to criteria of the exact sciences. Such legate justifies the need for a reflection that may elucidate not only the past, but also the manner in which this past has arrived to the present “influencing our languages, our thinking categories and our manners of approaching the educative problems” (p. 121).

The author reminds us that the papers that try to articulate the history of the sciences and the history of the professionalization of the teachers are rare. In the first case, the studies deal with epistemological issues of the "knowledge", without approaching the contexts of "power" that have structured the historical elaboration of the education. In the second, social images or the professional identity of the teachers are approached, without analyzing their relationships with the knowledge, especially with the pedagogical savvy. This gap in the research, according to Nóvoa, is due to the ambiguous concepts that circulate in society, referring to a semi-science when one talks about pedagogy and of a semi-profession when one refers to the teachers. Considering the different discourses and representations present in society, the author considers "impossible to understand the historical path of the education sciences without a reference to the institutional framing, of scientific work and of the professional utilization of the knowledge" (p. 123).

Thus, the author suggests that the professionalization of the teachers must be analyzed from the knowledge and powers that are put into practice in a determinate historical moment.

In the reconstitution of the history of the Math teacher professionalization in Brazil, Valente (2005b) points at two fundamental phases that have marked the trajectory of those professionals in our country. The first, preceding the creation of the Philosophy Colleges, identifies the math teacher as the mathematician; the second, started with the appearance of those colleges, differentiates the mathematician from the math teacher who has the pedagogical education required for the teaching.

Until the 1930's, the first professional reference of a math teacher in Brazil is of the military/engineer, prepared to teach the practical math required by the military arts and by the defense of the national territory.

According to Valente (2008), our "professional great-grandfather" used to teach dictating part of his school work concentrated in the Artillery and Fortifications Classes. When Geometry became part of the juridical courses, the mathematical content, previously considered as technical-instrumental content, reached the general culture category, appropriate to the education of the future graduates, doctors and engineers.

To teach this new mathematics to a new clientele, the teachers (military/engineers) learned to prepare booklets that helped the students memorize the subject. This "teaching art" of our professional grandfather has characterized, according to the author, the education of the of the Math teacher throughout a century. How was this professional model shaped or transformed by the teachers of the following generations?

The next generation, the one of our "professional grandfather", appeared in the 1930's, with the creation of the Philosophy Colleges, institutions that became responsible for the education of the high school teachers. The replacement of the preparatory courses by the system of serialized teaching, the proliferation of national school books with a new didactic-pedagogical orientation and the unification of the Mathematics subject, that became part of the old Arithmetic, Algebra and Geometry, were the main determinants of the renewal of the Professional practice of the high school Math teacher.

Such factors favored the increasing of the debate on the role of the pedagogical knowledge in the education of the teachers, which, since the prior decade, had been intensifying at *Colégio Pedro II*, with the polemic discussions between the professors Euclides Roxo and Joaquim Almeida Lisboa, in relation to the introduction of a modern pedagogy in the teaching of the school math.

> During the debates, appears among us, for the first time, the idea of education of the math teacher, despite the issue not being described in these terms. Replacing the Math teacher, qualified for his knowledge of the mathematical content, of the engineer turned into a teacher. On the other hand, Euclides Roxo became one of the first mathematical educators of our country (VALENTE, 2005b, p. 86).

As a mathematical educator, Euclides Roxo worried about the student's learning, acknowledged his mental development, showed himself knowledgeable of the principles of intuitive teaching. Criticizing excessive rigor and formalism, he said:

> The same way that humanity hasn't created math suddenly, the individual cannot learn it ready and finished, to acquire a new capacity – reasoning. One cannot educate the child's intelligence with the sudden presentation of a formal type of logical thinking. One must start by letting the student think in his own way about the presented problems. After that it will be easier to mold the student's thinking into a more formal type. (ROXO, 1937 *apud* VALENTE, 2003, p. 163).

Roxo did not eliminate the didactic-pedagogical knowledge. Talking about math and high school, he showed he had deep knowledge of the problems of this teaching segment and of the advances that the psychology of the time offered to the teachers in relation to the learning of the students.

Different from the mentioned math educator, the mathematicians used to create their own didactics from their experiences in the classroom. It has become emblematic Benedito Castrucci's testimony justifying that he had not taken the Didactics course because he had followed his professor Fantappiê's advice that "didactics has only one good rule: knowing the subject". The mathematician believed that if the teacher knew the subject, what was left was being a good artist (Duarte, Oliveira, Pinto, 2010).

The historical secondary role, attributed to the pedagogical knowledge in the teacher's education not only reduced the teaching role to the mere transfer of content, but also reinforced the model of our

"professional great-grandfather", which, according to Valente (2008), was very well assimilated in Brazil by many generations of teachers.

In the beginning of the 1960's, with the dissemination of the MMM in Brazil, the crisis that was affecting the education of the Math teacher gained new contours. It was a time, according to Catunda (1961), in which only 20% of the Math teachers in Brazil had college education. The others were authorized by ministerial decrees to get a register to teach without a specialized education.

With the increase of high schools, Brazil adopted a "sufficiency examination", but many of the people who failed the test continued working, and in the ingression tests were accepted students of Physics, Pedagogy and Social Sciences, as long as their curricula had a minimum portion of Math teaching.

In the large Brazilian territory, the lack of teachers to fulfill the needs of the innumerous Junior high installed in the small municipalities was solved with the hiring of available high school graduates and liberal professionals. Thus, doctors, agronomists, dentists and pharmacists became high school teachers.

For Catunda, the escalation of this critical picture of the teaching profession also happened due to the lack of valuing of the teaching career compared to the careers of other professionals of the exact sciences area. With a very low salary, the Math teacher also faced ten daily hours of classes, besides the time used for the preparation of lessons, correction of tests, meetings, etc. (Catunda, 1961, p.64 *apud* Fehr, 1962).

Simultaneously to the expansion of high school courses, there was also an increase of the courses of Math College Courses, with the permanence of the curricular matrix "3+1" (three years of specific contents and one year of pedagogical contents).
In 1966 the Brazilian educational scenario was presented by Osvaldo Sangiorgi, with more optimism, in the Second Iberoamerican Conference in Lima, Peru. Brazil already had, in that year, 46 Philosophy, Sciences and Languages Colleges, and 47% of the teachers had college education (Sangiorgi, 1966, *apud* Fehr, 969, p. 78).

As the Modern Math entered the Brazilian schools, innumerous habilitation and training courses were offered to the state and city teachers. In their majority, those courses focused on the Modern Math program, showing the teachers how the new program should be worked with the students. In their majority, those courses were given according to the logic of the instrumental rationality of the political project of the Brazilian dictatorial period, which considered the teacher's profile as a good teaching

technician, a good planner of classes and objective tests, summing up, a modern administrator of the new program. The absence of a questioning of "how it is taught" and of "to whom it is taught", ended up by intensifying the secondary role that the pedagogical education had in the professional culture of the Math teacher.

However, more recent studies on the MMM have shown that in the 1070´s, despite the technicist aura, innumerous experiences in the teachers education allied the teaching with the research and daring to break up with the technical rationality in force at that time opened gaps in the crystallized professional culture of the Math teachers.

The educational potential of the history of mathematical education

In the 1990´s the research on the education of teachers in Brazil welcomed the concept of reflexive teacher, considering its fecundity for the transformation of the pedagogical practices and for the improvement of quality of the basic education.

The critical analyses, coming from different countries, dissecting the concept through several angles, showed that the reflexive practice allowed a criticism to the paradigm of technical rationality that fragmented the teacher´s education, disseminated by the neoliberal policies.

However, the proposal as divulged by Schön (1992) was appointed as reductionist because it focused individual daily habits of the teachers and ignored the largest contexts of a concrete social practice as teaching is.

Giroux (1997), among other critics of this proposal, affirmed that more than an artist and a technician, the teacher was a critical intellectual and the mere reflection on the teaching work in the classroom was not enough for the understanding of the conditioning acts of his professional practice. Advancing the debate of the reflexive teacher, Contreras (1997) questioned the ambiguity of the field of reflection and its limits.

> It is assumed that the reflection field will help rebuilding emancipating traditions implicit in the values of our society. However, such values are not only the ones that represent emancipation, but also domination. What is questioned here is whether the reflexive processes, by their own qualities, direct themselves to the conscience and realization of the ideals of emancipation, equality or justice (CONTRERAS, 1997, p. 110).

The reflexivity that became recurrent in the contemporary education of the teachers, by not taking as object of reflection the profession as a cultural practice, by not being open to the reflections on the

professional representations, contributed very little to demystify the internal elements of the professional culture itself.

At the end of the last century, the more the educational courses discussed the importance of this new concept, the more the history of education was silenced and forced to occupy a non-place in the educational process. With this, the identity of the teacher entered the 21st Century fragmented.

Committed with the quality of the contemporary education, the basic education Math teacher, not wanting to be a mere technician and instructor, a teacher that transmitted contents transformed into a preparer of students for tests, hopeless with his present, facing the crisis that ravages the mass school and the globalization that unsettles stable structures, barely succeeds inedited professional future.

Final Considerations

The history of math education contributes for the teacher's reflection on his social practice. Beyond a didactic resource for the "teaching of", it comes with a longer duration purpose, by conceiving the education as a process of individual and collective construction of the professional identity, the profession as a human production historically situated, brings with it a reflexive potential of large educational value.

In a special manner, its disciplinary fecundity is focused on the reconstitution of the Professional identity of the math teacher, helping him to reinvent himself in a world saturated with science and technique. This contribution, however, imposes him inconvenient challenges, one of which is of "*escuchar a los muertos com los ojos"*, as Chartier (2007) said in his renowned inaugural class at the Collège de France on October 11, 2007. Listening to the voices that come to him from the past, looking at the other and seeing himself to understand the temporality of a social and individual construction that is the profession.

As Chartier said: "Even though they were bad prophets, the historians can help us understanding the heritage accumulated that made us what we are today" (2007, p.16).

It wasn't by change that we tried to place the importance of the historians for the reflection of the teacher's education. After all, our intention was to reinforce the fertility that the history of mathematical education offers for the math educator to establish an organic relationship with the past of the present time.

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