

**SCHOOL CULTURE AND ITS RELATIONSHIP TO MATHEMATICAL KNOWLEDGE: THE SENSES OF TEACHING REVEALED IN THE NOTEBOOKS OF A PRIMARY TEACHER**

***CULTURA ESCOLAR E SUA RELAÇÃO COM O SABER MATEMÁTICO: OS SENTIDOS DA DOCÊNCIA REVELADOS NOS CADERNOS DE ANOTAÇÕES DE UMA PROFESSORA PRIMÁRIA***

***LA CULTURA ESCOLAR Y SU RELACIÓN CON EL CONOCIMIENTO MATEMÁTICO: LOS SIGNIFICADOS DE LA ENSEÑANZA DESVELADOS EN LOS CUADERNOS DE UN MAESTRO DE PRIMARIA***

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**ABSTRACT:** In this article, aspects of the educational, cultural and social memory of the Brazilian Northeastern hinterland are analyzed, using the notebooks of primary teachers as a research source to understand the teaching of mathematics developed in the early years of elementary school in the period between 1950 and 1990. School notebooks make it possible to produce knowledge because it contains stories, socioeconomic, political, cultural and educational contexts created in different time periods. The aim of this study is to identify the content covered in the school and aspects related to elementary knowledge of mathematics. School notebooks allow us to produce knowledge because they contain historical, socioeconomic, political, cultural and educational contexts which were gestated in different time periods. The goal is to identify the contents covered and aspects related to elementary knowledge of mathematics. As theoretical references were adopted the understanding of Viñao Frago (2008) about school culture and the concept of Bernard Charlot (2000; 1996) about relationship with knowledge that brings the notion of relationship understood as a set of meanings and space for the subject's activities, inscribed at a certain time. Adopting Cultural History as a theoretical-methodological framework based on the propositions of Roger Chartier (1990) and considering research in the context of the history of school subjects, undertaken by André Chervel (1990), the text still considers Carlo Ginzburg's evidential paradigm (1989), in the search for representing the past and the present of mathematical education in teacher education.

**KEYWORDS:** History of mathematical education. School notebooks. School culture.

**RESUMO:** Nesse artigo são analisados aspectos da memória educativa, cultural e social do sertão nordestino brasileiro, tendo como fonte de pesquisa os cadernos de anotações de professores primários para compreender o ensino de matemática desenvolvido nos anos iniciais do ensino fundamental no período compreendido entre 1950 e 1990. Os cadernos escolares permitem produzir conhecimentos por conter histórias, contextos socioeconômicos,

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*políticos, culturais e educacionais gestados em temporalidades diversas. O objetivo deste estudo é identificar os conteúdos abordados na escola e aspectos relacionados aos saberes elementares de matemática. Como referências teóricas foram adotadas a concepção de cultura escolar defendida por Viñao Frago (2008) e o conceito de relação com o saber de Bernard Charlot (2000; 1996) que traz a noção de relação entendida como conjunto de significados e espaço de atividades do sujeito, inscritos num tempo. Adotando como referencial teórico-metodológico a História Cultural a partir das proposições de Roger Chartier (1990) e considerando as pesquisas no âmbito da história das disciplinas escolares, empreendidas por André Chervel (1990), o texto ainda considera o paradigma indiciário, de Carlo Ginzburg (1989), na busca da representação do passado e do presente da educação matemática na formação de professores.*

**PALAVRAS-CHAVE:** *História da educação matemática. Cadernos escolares. Cultura escolar.*

**RESUMEN:** *En este artículo se analizan aspectos de la memoria educativa, cultural y social del hinterland nororiental brasileño, teniendo como fuente primaria de investigación los cuadernos de apuntes de maestros de primaria para comprender la enseñanza de las matemáticas desarrollada en los primeros años de la escuela primaria en el periodo. entre 1950 y 1990. Los cuadernos escolares permiten producir conocimiento porque contienen historias, contextos socioeconómicos, políticos, culturales y educativos generados en diferentes momentos. El objetivo de este estudio es identificar los contenidos cubiertos en la escuela y los aspectos relacionados con los conocimientos elementales de la matemática. Como referentes teóricos se adoptaron el concepto de cultura escolar defendido por Viñao Frago (2008) y el concepto de relación con el conocimiento de Bernard Charlot (2000; 1996) que trae la noción de relación entendida como un conjunto de significados y espacio de actividades del sujeto, inscrito en un tiempo. Adoptando la Historia Cultural como marco teórico-metodológico a partir de las proposiciones de Roger Chartier (1990) y considerando la investigación en el contexto de la historia de las asignaturas escolares, realizada por André Chervel (1990), el texto sigue considerando el paradigma de acusación de Carlo Ginzburg (1989), en la búsqueda de la representación del pasado y presente de la educación matemática en la formación del profesorado.*

**PALABRAS CLAVE:** *Historia de la educación matemática. Cuadernos escolares. Cultura escolar.*

## Introduction

School notebooks, custodians of memories, allow research to be developed and knowledge production, as various forms of knowing and doing are recorded in them, stories, socioeconomic, political, cultural and educational contexts generated in different temporalities. The notebooks in question also allow the construction of interpretations about mathematics education disseminated in different historical moments and apprehend a set of

situations, facts and unique experiences of the daily school life experienced by teachers working in the period investigated, between 1950 and 1990.

This study raises theoretical-methodological discussions in the area of the history of education and, more specifically, in the history of mathematics education which, founded on Valente's publications (2014; 2008; 2006), highlight the multiplicity of themes and research possibilities and knowledge production, when considering the socio-historical contexts in which these notebooks are inserted.

*The assumption that school archives are mediators of multiple meanings in History provides avenues for investigation and formation of students to deal with the memory and history of education.* School notebooks allow to know the school from the inside in its specificities, knowledge, form of organization and curricular practices.

School culture, understood as a set of theories, norms, ideas, principles, rules, rituals, routines, habits, practices, ways of doing and thinking provides approximation of traditions, regularities and rules that are shared in educational institutions by those involved in the educational process. Through school files, it is possible to know the interior of the school, its specificities, knowledge, organization and curricular practices. In contact with students who participate in scientific initiation projects, there is the possibility of questioning and creating new knowledge from the dialogue with sources, breaking with a linear view of history, relativizing its truths and problematizing concepts that are often consolidated and conveyed in materials didactic.

The main objective of this research was to use school notebooks as sources for understanding how the teaching of mathematics in primary schools in the hinterland took place and, more specifically, to analyze signs of what was taught at the time, identifying the content covered and the aspects related to elementary knowledge of mathematics. As a theoretical reference, the understanding of Viñao Frago (2008) on school culture, Bernard Charlot (2000) on knowledge and Carlo Ginzburg (1989) on the evidential paradigm is used in the search for a representation of the past and present of school's everyday life. By analyzing the notebooks, it was also sought to understand the teaching concepts and the strategies adopted in relation to school mathematics and the guidelines conveyed by works and authors influenced by the ideas of the Modern Mathematics Movement.

Mogarro (2005, p. 104, our translation), contributes to our reflection by portraying that through files and information coined in school documents it is possible to understand “the various discourses produced by educational actors – teachers, students, employees and local and national authorities, because they have different representations about the school”. The

author reveals that archives record information about the school as a homogeneous set that “occupies a central and reference place in the universe of information sources that can be used” (p. 104, our translation).

According to Mogarro (2005) school culture is constituted by a set of theories, knowledge, ideas and principles, norms, rules, rituals, routines, habits and practices; that lead us to ways of doing and thinking, to behaviors settled over time and that present themselves as traditions, regularities and rules, often more implied than expressed in the sharing made by educational actors within institutions. This culture constitutes a substrate formed, over time, by intertwined layers that demand analysis in a historiographical process of investigation on school culture and the influences received.

Therefore, looking at the hinterlands as a cultural universe in the semiarid region of the Northeast, in an intense dialogue with sources, with renewed historiography and with cultural studies, provided an opportunity to interrogate the constituent elements and perceptions of social actors connected on a territorial basis with affinities, social and economic practices, internal interactions and external articulations preserved in a scenario of historical totality.

In this way, history and education will always be under construction due to their relevance to the formation of citizens, the questions that will contribute to developing a critical awareness that will inevitably lead to ways of being and acting that drive social transformation and perspective of a new history of mathematics education.

### **Bibliographical revision**

Before dealing with the data found in the research on school notebooks, it is worth highlighting some researchers who have been discussing research with school notebooks for a long time. They present the concept of notebook in different ways and, as Viñao Frago (2008) uses, the strict concept of notebook is adopted as a common support for students at the school. However, its use became widespread only in the 19th century.

Chartier (2007, p. 23, our translation) adds that “this source is, at the same time, fascinating and enigmatic, difficult to treat and interpret, precisely because of its apparent banality”. In fact, despite being part of everyday school life, school notebooks are, for the most part, discarded at the end of the school year or, rather, when the pages assigned to writing run out. Also, people use them as if they were ahistorical and, perhaps for this reason, researchers have taken a long time to perceive them as a source of investigation.

As for the field called History of Mathematics Education, Valente (2014) identified the difficulties in the development of theoretical concepts and models that would parameterize the field's own research problems, ensuring that

Most of the history of mathematics education, it seems, will have as a path to follow that of transforming itself from the condition of a specialty, whether from the History of Mathematics, of Mathematics Education, or even of the History/History of Education, to fullness of a scientific field, emerging as a discipline. And for this it will be necessary to go beyond research objects - which today, to a large extent, have been taken from the empirical reality, from its phenomenological appearance (levels of education in mathematics teaching, mathematics teaching content, formation of mathematics teachers, methodologies etc. are examples of this) (...) for the theoretical construction of knowledge objects (VALENTE, 2014, p. 330, our translation).

Through this study, it is evident that school notebooks provide a range of research possibilities in the field of History of Education, Literacy and Mathematics Education in relation to a diversity of approaches and points of view. However, depending on the topic to be addressed, school notebooks have limits, when used as the only source of research, as they do not allow us to observe what happens in the daily life of classrooms.

In the school notebook, in general, the record of the contents selected by the teacher is highlighted. However, the notebook does not contain, for example, notes of how a certain activity was developed or the time it took to be completed, nor who were the participating members and what was discussed during the process of its construction. In this sense, the statement by Viñao Frago (2008, p. 25, our translation) is plausible for a reflection on curriculum:

[...] Not everything is in the notebooks. They are silent, do not say anything about the oral or gestural interventions of the teacher and the students, about their weight and the way they occur and manifest themselves, about the environment or atmosphere of the classroom, about activities that leave no written or another type, such as reading exercises (reading aloud, for example) and the whole oral world.

Certainly, the possibility of reconstructing a real curriculum based on studies in school notebooks must be discarded. However, as in any historical operation, the intention in this investigation is to approach the past and reconstruct it in a partial way and with a determined focus because, still supporting Viñao Frago (2008), notebooks are not used in the same way in different places, as it is the researcher's gaze that will allow the data to emerge.

Another necessary reflection fed by the researcher is that the notebooks “are not only a product of the activity carried out [...] and of the school culture, but also a source that provides

information – through, above all, written essays and compositions – about reality school material and what is done there” (VIÑAO FRAGO, 2008, p. 16, our translation).

In this sense, the use of school notebooks in academic research has been gaining ground either as a source of research or as an object of study for the understanding of issues related to education, because of the materiality and records contained therein and that can be problematized; are constituted the nucleus of the investigation.

School notebooks make it possible to understand school cultures, the transmission of values and ways of thinking, the history of the curriculum, written culture, educational reforms and innovations (VIÑAO FRAGO, 2008).

In this article, with an analysis focus on the values that permeated school practices, material culture is considered “an integral part of school culture and places educational spaces, school buildings, furniture and teaching materials in the research agenda as a fundamental study object for the understanding of educational processes and teaching practices” (MOGARRO, 2010, p. 92, our translation).

In this way, school notebooks are considered bearers of meanings linked to the “system of values and social representations that go beyond the function of an object intended only for recording the learning process” (CORDOVA, 2016, p. 209, our translation). In this regard, they can be analyzed from different perspectives and can carry different meanings: “as ordinary writings, testimonies of a construction of the self; relics connected with a nostalgic sensitivity [...]” (CUNHA; SOUZA, 2015, p. 13, our translation). They can also testify “on a plurality of meanings: orientation of the educational act, in which political and social objectives are captured, in addition to pedagogical theories, [...] aesthetics of the illustration of writing models and, finally, economic interfaces [...]” (FERNANDES, 2008, p. 50-51, our translation).

By agreeing with the statement by Meneses (1998, p. 95, our translation) “every operation with documents, therefore, is of a rhetorical nature”, the intention is to expand the reflection regarding the rhetoric of what is said and what is not said, because, still according to the author, the notebooks bear registration marks that signal positions in a membership, but omit situations such as: agreements made through orality, forms of appropriation by students and teachers, and the time devoted to documented activities.

Finally, it is worth noting that school notebooks are not neutral, but rather results of the school culture of a particular place, of a particular historical time, as they are sources as complex as others and, therefore, become interesting research objects for being supports used by children, from a daily process that allows recording of interactions that are established during

the activities developed in class. They contain images and social representations about childhood, school, family, among other similar themes that explain written acculturation.

The perspective of cultural history, as Chartier (1990) understands it, having science and history as its object, “has as its main object to identify the way in which in different places and moments a certain cultural reality is constructed, thought, given to read” (CHARTIER, 1990, p. 17, our translation).

Intimately imbricated in this process are the identity relations of teacher education and professionalism, which imply certain ways of engaging in the teaching and learning processes. Charlot (2000, p. 72, our translation) essentially warns us that “[...] any relationship with knowledge also involves a dimension of identity: learning makes sense by reference to the subject's history, expectations, conception of life, to their relationships with others [...]”.

Charlot (2000; 1996) helps to deepen the reflection on the relationship with knowledge by addressing that, although it belongs to a subject, this relationship is also social. The relationship with the knowledge and learning of a group of subjects explains the context of the way of dealing with life, which is marked by the search to build possibilities of action, of possible actions in the everyday space.

Another important point that Charlot (2000, p. 68, our translation) alerts to is the fact that “knowledge can only take the form of an object through language; better still, of written language [...]”.

Given the overview of theorists mentioned in this section, who consider school notebooks as a source and object of research, and, understanding that they constitute a relevant documental source for the analysis of school cultures and practices in the study of school institutions, the survey is presented below. data that was performed in this research.

## **Methodology**

The context that encompasses this work, an invitation to approach the materials that have been part of school life for years, to remove them from their daily routine and place them in a prominent position, is permeated by the intention to rescue the meaning of school practices from their daily life.

By proposing a differentiated perspective, considering the marks (evidence) of cultural uniqueness present in school notebooks, whether by notes, drawings or figures cut out and pasted on them, they provide evidence of uses and invite an interpretation process that transforms the usual object into a good of personal and unique value that tells the story.

It is also considered that materials only acquire an existence because they are linked to the production of certain school knowledge and therefore are perceived in the field of representations and images of students.

For this qualitative and ontological study, 8 (eight) of the 27 (twenty-seven) school notebooks were selected from the collection of Teacher Maria Franca Pires. The teacher, popularly known as Franca Pires, was born on 5 November 1921, in the city of Remanso in the Sertão da Bahia and graduated as a teacher in 1939 at the Nossa Senhora Maria Auxiliadora Rural School in Petrolina-PE. In 1943, she was approved in the public exam for the Primary Teaching of the Bahia state education system and was appointed in Salvador in 1947. In 1950, she returned to her native land and in 1951 requested a transfer to Juazeiro, where she worked and remained until her death in 1988.

The teacher's notebooks have notes that portray her numerous experiences, such as childhood memories, the premature death of her mother, her trajectory at the Maria Auxiliadora nuns' school, the teaching course in Salvador, meeting agendas, lesson plans, interviews with members and leaders of cultural groups, biannual and annual planning of the subjects of Portuguese Language, Mathematics and Science. These notes reveal clues about how Franca Pires approaches different contexts (political-social-cultural) of the city of Juazeiro (BA) and surrounding regions, which enabled the production of new knowledge and practices based on her experiences.

In relation to school notebooks, sources of this investigation, those that presented records and representations of mathematical content were selected, considering that the analysis of the notebooks reveal traces of what teachers favored when teaching, the method, activities, strategies linked to the social and economic context in which they were produced.

The question that arises is: what traces of the influence of the Modern Mathematics Movement (MMM) in the praxis of Teacher Maria Franca Pires and which records reflect traces of the constitution of mathematics education as a field of research? From the detailed analysis in the 8 notebooks considered for this study, the evidence of mathematical representations that point to an approximation to the MMM ideology in the search for understanding the influence of this movement on the education and professionalization of teacher Franca Pires will be explained.

The practice of historiography can be compared to activities that need the analysis of evidence to make explanations. The Italian Carlo Ginzburg systematized this type of knowledge and coined the expression “indicative paradigm” both for history and for other areas of



knowledge that share the practice of “tracking of signals, indications, signs” that refer to some event, but without capture it in its entirety.

The History of Mathematics Education in this study characterizes as a guiding element in the search for references to understand the records of practical situations in the daily life of the teacher and the particularities that were highlighted are just small indications of the many analyzes of this nature.

## **Results and discussion**

The concern with teaching methods that would make it possible to resolve the difficulties in teaching and learning in primary schools, although a recurrent theme in the literature, finds in the collection under study evidence of reception, circulation and appropriation of pedagogical conceptions of its time.

For Valente (2006), there is a need to build references for Mathematics Education carried out in much of the second half of the 20th century in Brazil and, therefore, it is essential to intensify research, aiming to reach as close as possible to what effectively represented the Modern Mathematics Movement (MMM) at that time and the influences that, perhaps, still exert on the pedagogical actions of Mathematics teachers.

The MMM took place at a historic moment when the world was undergoing major cultural, political, social and economic changes. In Brazil, this historic moment was characterized by a period of transition of the economic and political base in which, under a dictatorship, all speeches were turned to the idea of modernization and developmentalism, despite the country's serious social problems. The events that took place in the field of economics and politics maintained close links with the scientific-technological field and supported the ideas of changes presented by the Modern Mathematics Movement, which legitimized the concept of "modern" because it considered that the "new mathematics" would surpass the limits set by ancient mathematics. Therefore, the construction of these references becomes fundamental for the idea of the scope of the facts produced by this movement and the implications of these facts in school practices to be further elaborated.

For Silva and Valente (2008), school notebooks can translate a lot about the teaching and learning process that took place in other times.

In the search for traces for the writing of this historical trajectory, teacher Franca Pires' notebooks, constitutive of school culture, expand the possibility of understanding both the history of mathematics education in the lower middle São Francisco region and what happened

inside the school institutions. Also seeking to understand the appropriations of proposals for primary teaching at the time of the Modern Mathematics Movement.

In an attempt to understand the curriculum and practices of teachers, active in the second half of the 20th century, in relation to the approximations, distances and intersections with the current school culture, traces of rules and practices of mathematics that were formalized in primary school in the notebooks of the investigated collection.

The 1960s were marked by major changes in the teaching of mathematics throughout Brazil, due to the Modern Mathematics Movement (MMM). Emerging in Europe and the United States, the ideas of the MMM arrived in Brazil in the early 1960s, characterized by having been a movement to reformulate the mathematics curriculum for basic education, whose main particularity, manifested by the representatives of the movement, was the discussion in the groups of the new proposal for the democratization of the teaching of mathematics, making it more practical and more contextualized, as well as establishing forms of implementation in schools. Several groups of teachers were formed during this period in different regions of Brazil with the aim of getting to know, study and understand to put modern mathematics into practice.

Franca Pires created and chaired the Association of Parents and Teachers, which would develop actions for 20 years, a period in which the teacher had the real opportunity to put her learning into practice and make this viable identification, as it is possible to verify in the research sources used in this investigation and in the vestiges in the present time related to the history of school mathematics.

The result of an apprenticeship at the time of the Normal School, the teacher excelled in the idea that the school-family relationship was essential for the smooth running of schoolwork and for the formation of citizens was imperative at the school. It also envisioned a citizen Mathematics Education, "in which the knowledge learned should certainly contribute so that students can acquire skills and abilities capable of attributing to them actions that converge to improve the quality of life of each one, individually and collectively" (MENDES, 2009, p. 16, our translation).

The ideal of mathematics, its teaching and knowledge are registered in notebooks numbers 3, 4, 7, 8, 9, 10, 20 and 22 that make up the collection of professor Franca Pires. These notebooks intertwine the curricular contents and teaching proposals documented by the teacher in semester and annual plans and also in the lesson plans, namely: set theory, set of natural and rational and their operations, decimal metric system, perimeter, area, volume, geometric solids, planes, classification of plane figures, notions of statistics, problem solving and mathematics assessment.

Notably, she was a teacher concerned with forming students in the rigor of logical reasoning and in clear and precise language, in addition to emphasizing the emphasis on terminology and conceptualization that were prerogatives of set theory and measures in geometry. These aspects were emphasized in notes at the end of the page, in the ear and in small records highlighted along the notes in the various notebooks. The study of these notebooks may reveal important constituent elements of the historical trajectory of the school discipline (CHERVEL, 1990), in this case of mathematics taught at school.

Starting with notebook number 3, it is worth noting that it is a small notebook measuring 21.1 cm x 14.8 cm, wired, containing 364 pages, colored cover with the image of a shoe with puppies inside and flowers on the side; there is, still on the cover, a pasted figure depicting an urban environment. In the central part is written number 3. The back covers contain various notations of addresses, phrases and mathematical accounts. Several recorded interviews with representatives from various sectors of the community are transcribed in this notebook covering the following themes: carnival of 1914 (list with names of people who left in the cars of “Venice Ambassadors”); about the Carnival Queen contest and relationship with the Royal Bazaar; participation of an interviewee in the Novos Baianos group; story of haunting; São Geraldo dam; water division of the São Francisco River; floods; location of the highest point in Juazeiro; information about the extinction of Apolo's musical body, Ideal cinema; piped water service, origin of Juazeiro, economic development, press, religions, politics, education, culture and Santa Casa facilities.

Notebook number 4 is small, measures 20.5 cm x 14.7 cm, wired, contains 138 pages, colored cover in white, pink and yellow, intended for notes on promoting Courses and organizing production and sales of crafts. In the center of the cover is pasted a piece of paper in which is written “1980” and the number 4 on top; “Maria Franca Pires – 1980” is in handwriting on the cover for the identification of the notebook. The records in this notebook contain notes from the meeting with teachers, dated 14/01/1980, on responses to the FUNDESCOLA questionnaire and preschool matters. There are notes on the planning of craft courses in Juazeiro projects in Maniçoba, Mandacaru, Curaçá, Tourão; list with names of instructors by course, dated 28/01/1980; course production notes per week in the municipalities and mathematical accounts. There are also production lists for courses in crochet, hand embroidery, cutting and sewing, cloth dolls and animals, tapestry. It ends with notes on the Crafts Fair and Post.

Notebook number 7, small, 22 cm x 16 cm, contains 47 pages, flexible paper cover in orange color. The cover features the word COMPANION printed in blue and the image of a

smiling boy crouched down and playing with a police car on the ground. In addition, still on the cover, it is written “Catechism” and “Maria Pires”. The background of the notebook has a drawing and an educational text about electricity.

Notebook number 8 has class, event and meeting plans recorded. Its description is of a small notebook measuring 21.7 cm x 15.5 cm, wired, containing 77 pages, a checkered cover and colored in blue, gray and white. In the center of the cover is handwritten, like a title, “Legends and others”; also on the cover, in the space destined for identification, is the manuscript “Different Planning – Maria Franca Pires – 1971”. On the back covers are handwritten quotes of thoughts, reminders, and an address note. The teaching plans are for religion, Juazeiro's birthday contest, mathematics, information about catataus, interviews about candomblé, toré, dances, suits, ox kings, congos.

Notebook number 9 is small, measures 22 cm x 16 cm, wired, contains 92 pages, colored cover in white, blue and pink. On the cover, in the place destined to the identification of the notebook, there is the handwriting “Maria Franca Pires – ‘Research’ – Cons. Luiz Viana, 101 – Juazeiro-Bahia”. On the back cover seven sentences and a list of portraits and names of three people (Lilina, Chico Cabana and Blandina) are noted.

Notebook number 10 is small with dimensions 21 cm x 14.5 cm, paperback, contains 75 pages, colored cover in green color, containing an image in the center with two blond children playing in the sand of a beach. At the top of the cover the word “companion” is engraved in red and in the place for the identification of the notebook there is a handwritten “Mothers Club: Piranga e Maria Goretti” and below, in smaller letters, “For the use of: M<sup>a</sup> F. Pires”. This contains notes on the organization of the Mothers Club: lists of names, meetings, accountability, courses offered, Mothers Club statute, etc. There are also course notes for the year 1979 (but there are no related courses).

Notebook number 20 is small, measuring 22 cm x 15 cm, wired, contains 69 pages, smooth cover in beige color. The writing “Planning – Maria Franca Pires – 1972” is located on the cover for the identification of the notebook. The registered plans are for excursions, classes and meetings; information about Folklore, in Brazil and in Juazeiro; the Proclamation of the Republic and the Flag Week; Children's Week; questionnaire about someone (it seems to be done by children to Maria Franca Pires); draft letter to Captain Esmeraldo, head of the São Francisco Navigation Company, dated 17 July 1972; birth dates of José Ronaldo Dewilson Oliveira, José Robério Dewilson Oliveira, Maria Tereza Dewilson Oliveira, Maria Olívia Dewilson Oliveira; in addition to stories and poems. There is the Lesson Plan for 31/08/72: exams, essay, Math exercise, and addition properties subject. There are notes dated 12/09/72:

lesson planning on poetry, reminders, lyrics from the Anthem of the Proclamation of the Republic and the Anthem to the Flag.

The last notebook to be analyzed, number 22, also a small notebook measuring 23 cm x 16 cm, wired, contains 85 pages, has a checkered cover and is colored in brown and white. The manuscript “Maria Franca Pires – Course Notes – 1971” is located on the cover for the identification of the notebook. These notes contain stages of development of the courses composed by the records: Creativity, Group Dynamics, Teaching Reform, Memorization, Human Relations, The Power of the Mind, Folklore; phrases, thoughts and quotes; questionnaire about Rui Barbosa; planning for “My Neighborhood is the best” competition; poems, stories and song lyrics.

Therefore, it is noteworthy that in these files, in addition to personal documents, documents of a pedagogical and institutional nature of fundamental importance for the historiography of the school space were also found. Such documents, lesson plans and plans, meeting minutes, photos, ex-students' class notebooks and teacher Franca Pires' notebooks reveal a reality little understood in official documents.

According to Vidal and Faria Filho (2005, p. 24, our translation), it is necessary to recognize that there is no school practice disconnected from the material conditions of its implementation. In this sense, the preserved collection of Franca Pires bears evidence of the multiple ways in which the teacher constituted her professionalism and prompts investigation into the different forms of appropriation of knowledge and knowing, “offering the researcher indices on the past relationships of subjects with materiality school or on the formality of school practices and reminding him that pedagogical situations are very often constructed by oral forms of socialization”.

These considerations allow us to conclude that Maria Franca Pires' notebooks link regional and national educational policies, school and scientific discourse on Mathematics learning and how knowledge is articulated in the plot of notebooks, revealing a school culture.

## **Final considerations**

School activities bring evidence of knowledge, moral values and behaviors stimulated in daily school life and which, therefore, were part of the school cultures of the school institutions in which they were developed. School practices are permeated by programs, decrees, pedagogical ideas in circulation and also by the organizations of the teaching staff, by their formative opportunities, by physical and material spaces. Finally, it is in the school

environment that spaces for creative and inventive uses are provided, permeated by school cultures.

In this work, the complexity that investigations of this type entail was perceived. The analysis undertaken is neither intended to be conclusive nor definitive but suggests the possibility that in other research works it may be extended, completed or even confronted with what has been done so far. Finally, this work tried to illustrate an investigation in the field of school material culture, evidencing elements of school practices that configure predominant facets of historical-cultural processes and facts of daily school activities.

From the analyzed notebooks, it is possible to verify traces that point to the knowledge and engagement of Teacher Franca Pires with the discussions regarding the teaching of mathematics that reflect on the choices that were made by her in relation to her attachment and fixation in the hinterland. Her work has advanced in the sense of deepening studies and promoting actions that have contributed from the selection of researchers with vast production in the area for teaching formations to discussions with peers in relation to mathematics education.

Education, a thread that wove and led the teacher's life in focus, sewing and crossing - plural, inclusive, creative, pioneering and innovative - Maria Franca Pires' records with the coherence that marked her existence and the professional *ethos* that constituted the teacher.

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