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Statements that permeate the development and implementation of the Paraná State Curriculum Guidelines

Enunciados que permean la elaboración e implementación de las Directrices Curriculares Estatales de Paraná

Énoncés qui imprègnent l'élaboration et la mise en œuvre des Directives Curriculaires de l'État du Paraná

Enunciados que permeiam a elaboração e implementação das Diretrizes Curriculares Estaduais do Paraná

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Abstract

This research focuses on the analysis of narratives from seven collaborators who participated in the elaboration and implementation of the Paraná State Curricular Guidelines (DCE-PR) from 2003 to 2012. Therefore, our general objective is to produce statements considered central in narratives from mathematics pedagogical technicians who participated in the elaboration and/or implementation processes of the Mathematics DCE-PR. These statements are constituted from five axes of analysis of the Mathematics DCE-PR, namely: (i) Objective, (ii) Methods/Didactics and Vision of (iii) Mathematics, (iv) Teachers, and (v) Students. To achieve the proposed objective, we draw on oral history, incorporating the perspectives of Garnica and others, in conjunction with Orlandi's discourse analysis. The results point to the sieve and emphasis of methodological trends for the functioning of legitimate school practices, associated

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with the teacher institutionalized by the academic environment and the vision of a questioning and critical student– even if the conception of mathematics, necessarily, is not.

Keywords: Curricular studies, Methodological trends, Critical formation, Narratives, Paraná state curriculum guidelines.

Resumen

Esta investigación se centra en el análisis de narrativas de siete colaboradores que participaron en la elaboración e implementación de las Directrices Curriculares Estatales de Paraná (DCE-PR) de 2003 a 2012. Por lo tanto, nuestro objetivo general es producir enunciados considerados centrales en narrativas de técnicos pedagógicos de matemáticas que participaron en los procesos de elaboración y/o implementación de las DCE-PR de Matemáticas. Estos enunciados se constituyen a partir de cinco ejes de análisis de las DCE-PR de Matemáticas, a saber: (i) Objetivo, (ii) Métodos/Didáctica y Visión de (iii) Matemáticas, (iv) Profesores, (v) Alumnos. Para alcanzar el objetivo propuesto, nos afiliamos a la perspectiva de la historia oral de Garnica y otros, aliada al análisis del discurso (AD) de Orlandi. Los resultados apuntan al tamiz y al énfasis de las tendencias metodológicas para el funcionamiento de prácticas escolares legítimas, asociadas al profesor institucionalizado por el medio académico y a la visión de un alumno cuestionador y crítico –aunque la concepción de matemáticas, necesariamente, no lo sea.

Palabras clave: Estudios curriculares, Tendencias metodológicas, Formación crítica, Narrativas, Directrices curriculares estatales de Paraná.

Résumé

Cette recherche se concentre sur l'analyse des récits de sept collaborateurs qui ont participé à l'élaboration et à la mise en œuvre des Directives Curriculaires de l'État du Paraná (DCE-PR) de 2003 à 2012. Par conséquent, notre objectif général est de produire des énoncés considérés comme centraux dans les récits de techniciens pédagogiques en Mathématiques qui ont participé aux processus d'élaboration et/ou de mise en œuvre des DCE-PR de Mathématiques. Ces énoncés sont constitués à partir de cinq axes d'analyse des DCE-PR de Mathématiques, à savoir : (i) Objectif, (ii) Méthodes/didactique et vision des (iii) Mathématiques, (iv) Enseignants, (v) Élèves. Pour atteindre l'objectif proposé, nous nous affiliions à l'Histoire Orale sous la perspective de Garnica (2015, 2023), Meihy (2014), Gattaz (1996) et Delgado (2003) alliée à l'Analyse du Discours (AD) dans la perspective d'Orlandi (2007, 2020a, 2020b, 2023). Les résultats mettent en évidence le crible et l'accent mis sur les tendances méthodologiques pour le fonctionnement de pratiques scolaires légitimes, associées à l'enseignant

institutionnalisé par le milieu académique et à la vision d'un élève questionneur et critique - même si la conception des Mathématiques, nécessairement, ne l'est pas.

Mots-clés: Études curriculaires, Tendances méthodologiques, Formation critique, Récits, Directives curriculaires de l'état de Paraná.

Resumo

Esta pesquisa centraliza a análise de narrativas oriundas de sete colaboradores que participaram da elaboração e implementação das Diretrizes Curriculares Estaduais do Paraná (DCE-PR) no período de 2003 a 2012. Para tanto, temos como objetivo geral a produção de enunciados considerados centrais em narrativas oriundas de técnicos pedagógicos de matemática que participaram dos processos de elaboração e/ou implementação das DCE-PR de Matemática. Estes enunciados são constituídos a partir de cinco eixos de análise das DCE-PR de Matemática, a saber: (i) Objetivo, (ii) Métodos/Didática e Visão de (iii) Matemática, (iv) Professores, (v) Alunos. Para atingir o objetivo proposto, nos filiamos à história oral sob a perspectiva de Garnica e outros, aliada à análise do discurso sob a ótica de Orlandi. Os resultados apontam para o crivo e a ênfase das tendências metodológicas para o funcionamento de práticas escolares legítimas, associadas ao professor institucionalizado pelo meio acadêmico e a visão de aluno questionador e crítico – ainda que a concepção de matemática, necessariamente, não o seja.

Palavras-chave: Estudos curriculares, Tendências metodológicas, Formação crítica, Narrativas, Diretrizes Curriculares Estaduais do Paraná.

Statements that permeate the development and implementation of the Paraná State Curriculum Guidelines (DCE-PR)

This research examines the significance of weaving understandings about the mathematics curriculum outlined in the Paraná State Curriculum Guidelines (DCE-PR) through the formulation and implementation processes of this curriculum policy from 2003 to 2012.

Studies by Lopes (2006) suggest that the State plays a significant role in implementing and controlling educational policies. However, to understand the State's actions in curriculum policies, "it implies considering its constitution beyond the vertical movements from top to bottom, marked by central power, by governments and from bottom to top, having in practice its field of production" (Lopes, 2006, p. 245).

Concerning curriculum studies, Silva (1999) highlights its role as identity formation, in a discussion that goes beyond the selected content, implying a specific vision of human beings in a given historical period. This curriculum approach implies the characterization of its non-neutrality in shaping individuals and society.

Thus, due to the importance of the DCE-PR of Mathematics as a consolidated curriculum document, the way it was formulated and implemented, as well as its role in guiding education in Paraná for almost 20 years, we took this proposal as our object of research.

In this research, our general objective is to produce statements considered central in narratives originating from mathematics pedagogical technicians who participated in the processes of elaboration and/or implementation of the DCE-PR of Mathematics. These statements are constituted from five axes of analysis of the DCE-PR of Mathematics, namely: (i) Objective, (ii) Methods/Didactics and Vision of (iii) Mathematics, (iv) Teachers, and (v) Students.

To this end, we used narratives presented in[4] the already defended doctoral thesis by the first author (Author 1, year). These narratives were created through interviews, which aimed to mobilize memories and reflect on identities and experiences, with oral history being a potential research methodology.

[4] The research "Um olhar para a Matemática nas Diretrizes Curriculares do Estado do Paraná: um estudo sobre as ações que as antecederam e constituíram" [A look at mathematics in the Curriculum Guidelines of the State of Paraná: A study on the actions that preceded and constituted them], which resulted in this article, was submitted and approved by the Ethics Committee of the Health Sciences Sector of the Federal University of Paraná (SCS/UFPR) on June 7, 2021, Certificate of Presentation of Ethical Appreciation (CAAE) number 45342321.6.0000.0102.

Among the various perspectives on oral history studies, these narratives align with their use as a dialogue or complement to existing versions in documents, aiming to mobilize understandings about themes or studies that have already been produced.

Oral history is closely related to history because it also offers a possibility for developing historical sources, while enabling readings of various stories and plural, coexisting "truths," depending on the stance taken towards established sources (Garnica, 2015).

Combined with the narratives produced, considered historical sources, we promote the theoretical and methodological articulation of discourse analysis (DA), "DA problematizes the attribution of meaning(s) to the text, seeking to show both the materiality of the meaning and the processes of constitution of the subject, which influence the discursive functioning of any text." (Orlandi, 2023, p. 13).

The movement of materiality of meaning positions DA as divisive, to which Orlandi (2023) attributes two reasons. First, because given a particular social situation, we always occupy specific positions (and not others) in the conflict of social relations, which we cannot do neutrally. "Secondly, because the criticisms leveled against DA constitute continuous forms of annexation and revision of its explanatory capacity" (Orlandi, 2023, p. 14).

Therefore, we analyzed narratives produced in collaboration with seven mathematics pedagogical technicians, observing from their perspective how meanings are constituted during the formulation and implementation of the DCE-PR, thereby gaining access to information not available in other documents.

The next three sections of this research are: (I) Oral History and DA, where we aim to weave together and theoretically contribute to these methodological approaches; (II) Analysis of Narratives, where we promote the production of statements arising from interviews with mathematics pedagogical technicians; and (III) Final Considerations.

Oral History and DA

This section focuses on the articulation of oral history with DA, situating the former as an approach to data collection and construction of historical sources and associating it with DA as a device for interpretation and analysis.

For Garnica (2011, pp. 40-41), "Oral history is a way of producing oral narratives and for this purpose it has been mobilized by numerous agents, inside and outside academia." In the

academic context, it is typically employed as a potential methodological procedure for the constitution of sources.

Within oral history, interviewing people who participated as actors or witnesses, recalling facts through memory and the ability to recall the past, as they are considered witnesses to what was experienced, presents an opportunity for the creation of historiographical narratives.

According to Meihy (2014), it is natural to find people who believe they are not important for the act of narrating, as some individuals are celebrated and others are disregarded as commonplace. In this regard, Thompson (1992, p.137) characterizes oral history as a "living history rich in singular meanings," as it transforms the objects of study into real subjects. He also emphasizes that, "while historians study people in history from a distance, prescribing opinions and actions from the historian's own point of view, oral history allows visibility to the speeches of people with different social roles."

Thus, in many academic studies, especially those focused on mathematics education, oral history has been used to publicize the speeches of teachers, pedagogical coordinators, and educational technical professionals, among others.

Entering into the procedure used to construct the analyzed narratives, according to Garnica (2011), in mathematics education, opting for oral history is not restricted to the rules of production of information born from interviews. One must go beyond and consider specific ways of:

> a) raise research questions; b) search for information and record memories – narratives – that allow us to address these questions; c) care for these records ethically and work with them according to specific procedures, making them public at the end of this process; d) analyze the arsenal of data according to theoretical perspectives in tune with some previously established principles; e) seek to create alternative narrative forms to those usually prevailing in the academic environment, constituting the works produced in this area more as fields of experimentation than as arguments of certainties (Garnica, 2011, p. 266).

According to Alberti (2004), the person interviewed reports parts of past events, and some details and repetitions may indicate an effort to retrace the path taken. Therefore, it may happen that the narrator distorts reality, experiences memory lapses, or makes mistakes in what

they say. Hence, it is up to the researcher to reflect on the reasons that led the interviewee to conceive of the events in one way rather than another, and in what way their truth differs from the truths of other collaborators. “It is about showing how the meanings are understood by the ‘people’ as a whole, even if the words instituted for these meanings are not uttered” (Orlandi, 2007, p. 108).

However, the sources have gaps and are partial reports of what is narrated; according to Garnica (2007, p. 4), “these sources give you a partial, but not unclear, perception of the reality in which you are immersed.”

Thus, the written text, after undergoing the processes of transcription and textualization, is considered a historical source, recognizing that in the journey from orality to the written register, many speeches may change.

We adhere to the definition of oral history proposed by Meihy (2014), who considers it:

> A set of procedures that begins with the development of a project and continues with the establishment of a group of people to be interviewed. The project includes: planning the recordings, including locations, durations, and other environmental factors; transcription and establishment of texts; checking of the written product; authorization for use; archiving and, whenever possible, publication of the results, which must first be returned to the group that conducted the interviews (Meihy, 2014, p. 15).

Thus, this set of procedures served as organizing elements in the constitution of the narratives, including the selection of collaborators and moments of the interview, the recording, transcription, and textualization, as well as the authorization and validation of the interviews.

As explained by Gattaz (1996), oral history is realized in the materiality of a written text. Therefore, once the stages of interviews and the creation of audio files are completed, along with a transcription process, a documentary body is formed, which serves as the basis for the historian’s work.

Considering that spoken and written language are different and have different values, for a research collaborator to recognize themselves in the text composed by the researcher, we must ensure that the transcription goes beyond the raw transfer of audio to writing. Literal transcription is an important step in the constitution of interview data: “because it is, ultimately, a way of honestly and correctly reproducing the interview in a written text” (Gattaz, 1996, p. 135), it gains a character of veracity of what was said and how it was said, in the different circumstances of the interview.

Therefore, we must consider the need for textualization, a stage in which the raw text changes to facilitate reading and understanding. Textualization can be characterized as "the process of transforming discourse into a more coherent narrative (with or without the question-answer style), in an exercise of appropriating the interviewee's speech" (Garnica, 2015, p. 65).

Another care to be taken in the transcription of an interview is that the text must not distort the original statement, so that respondents can recognize themselves in the speeches given. In this way, textualization produces a clean and lean text, easy to read and understand. Above all, the authorship of the final text is assumed to be that of the interviewer; however, the person interviewed becomes the collaborator in the creation of this historical document.

The almost finished narratives are then sent to the interviewees for review, not only to verify the 'fidelity' of the textualization, but also for ethical purposes. The intention is to avoid tampering with the document and its original content, as this may have triggered the mobilization of memories and recollections. This final stage involves checking and legitimizing, and is the moment at which the collaborator can suppress or add something to the text, holding all the power and right to do so to ensure the veracity of the text (Gattaz, 1996).

Furthermore, oral history can be used as a means of constituting oral narratives, being seen as sources of knowledge (Delgado, 2003).

Starting from narratives as historical sources, we then combined them with DA, a critical theory that deals with the historical determination of processes of signification (Orlandi, 2023). To this end, "It does not stop at products as such. It works with the processes and conditions of language production" (Orlandi, 2023, p. 12).

Therefore, DA observes narratives as a potential object of analysis directed towards "the fragmentary, the dispersed, the incomplete, the non-transparent. This is the domain of discursive reflection." (Orlandi, 2023, p. 12). With this, we invested in the production of meanings that were materialized by a series of statements throughout this research, as "language is not just an instrument, nor a piece of data, but a human work, a historical-social product (Orlandi, 2023, p. 118). One of the tools used concerns the activation of the metaphor, understood from the sliding of one word over another, that is, "we speak the same language, but we speak differently" (Orlandi, 2020b, p. 83).

According to Orlandi (2020a), what is not said also constitutes the meaning of what is said. "In any case, we know that, throughout the saying, there is a whole margin of unsaid things that also have meaning" (Orlandi, 2020a).

The incidence of metaphor resides in the construction of slippages and statements throughout the analysis. In this regard, it is worth highlighting that every slippage is also

considered a statement. Therefore, the distinction between the terms is provided to direct the metaphor, considering that the slippage has a direct reference to the associated and, at times, highlighted section. In turn, the statement is a more comprehensive construction compared to the discussion to which it is associated.

Analytically, as a theoretical and methodological perspective, we use DA to consider language work "in the sense that it is neither arbitrary nor natural, but necessary" (Orlandi, 2023, p. 29). Within this logic, society is not considered a given, nor language a product.

To construct narratives, researchers generally use scripts, keywords, or questionnaires to define the topics to be covered in the interview. Furthermore, the interviewer's stance is to interfere as little as possible, ensuring that the collaborator can narrate the topic and subtopics of interest subjectively. Therefore, even though the respondent models their speech through the device of anticipation (Orlandi, 2023), the interviewer's challenge predominates in the purpose of conducting the interviews in this movement.

Orlandi (2020a) states that the text is the unit of analysis affected by the functioning of language, which provides a significant space, i.e., a place for the play of meanings, the work of language, and the functioning of historically determined discursivity.

The notion of textuality for DA expands the concept of text to include discourse, which is understood through the effect of meanings among speakers (Orlandi, 2023). The meaning "is intervallic. It is the result of a discursive situation, outside of statements actually made. This margin, this interval, is not a void; it is the space configured by society. Effect of meaning. Multiplicity. (Orlandi, 2023, p. 165)

When the collaborator structures their speech, they do not do so in isolation. In other words, "when speaking, subjects divide themselves; their words are also the words of others" (Orlandi, 2007, p. 78), because there is a repertoire (discursive memory) that determines 'what' and 'how' should be said in the face of the injunctions of social rationality (Orlandi, 2007).

Even though the origin of textual discourse (narratives) is an oral discourse (interviews), the distinction between them, according to Orlandi (2020a), predominates over the discursive functioning of the constructions carried out. The author also highlights that this distinction is nebulous, as, for example, television news discourse, even when verbalized, embodies a textual discourse originating from the teleprompter. Hence, the relevance of prioritizing function over form.

Starting from the historical source originating from oral history, "the work of the discourse analyst is to show how a symbolic object produces meanings, how the processes of signification work in a text, any text" (Orlandi, 2020a, p. 82).

Larrosa (2002, p. 21) believes “experience is what happens to us, what touches us. Not what happens elsewhere; not what touches elsewhere.” It is also an encounter with something that is experienced and becomes meaningful. The pedagogical technicians reported how these processes took place by attributing meanings to the narratives, characterizing what Larrosa (2002) defends as the knowledge of experience, in the search to reveal to the human person the meaning or not of their existence, as well as their perception of their own finitude. Thus, “knowledge from experience is a particular, subjective, relative, contingent, personal knowing” (Larrosa, 2002, p. 27).

In the thesis, the author used narratives from seven collaborators who directly address the formulation and implementation of the Paraná State Curriculum Guidelines. All collaborators involved hold degrees in mathematics and have experience as mathematics teachers in basic education. Three have master’s degrees in education, and three have master’s degrees in mathematics education from the Federal University of Paraná.

The names of the collaborating individuals and their respective periods of participation in the preparation and/or implementation of the PR Mathematics DCE can be found in Table 1:

Table 1.

Collaborators and respective participation periods, adapted from Author 1

Collaborator	Entry	Departure
C1 - Donizete Gonçalves Da Cruz	2003	2008
C2- Lisiane Cristina Amplatz	2007	2011
C3 - Helenice Fernandes Seara	2007	Not informed
C4 - Marcia Viviane Barbetta Manosso	2006	2010
C5 - Renata Cristina Lopes	2007	2012
C6 - André Cândido Delavy Rodrigues	2008	Not informed
C7 - Claudia Vanessa Cavichiolo	2005	2011

The following section focuses on the analysis of the collaborators’ narratives.

Narrative analysis

Aiming to enable the analysis of narratives coming from mathematics pedagogical technicians, we proceeded as shown in the following figure:

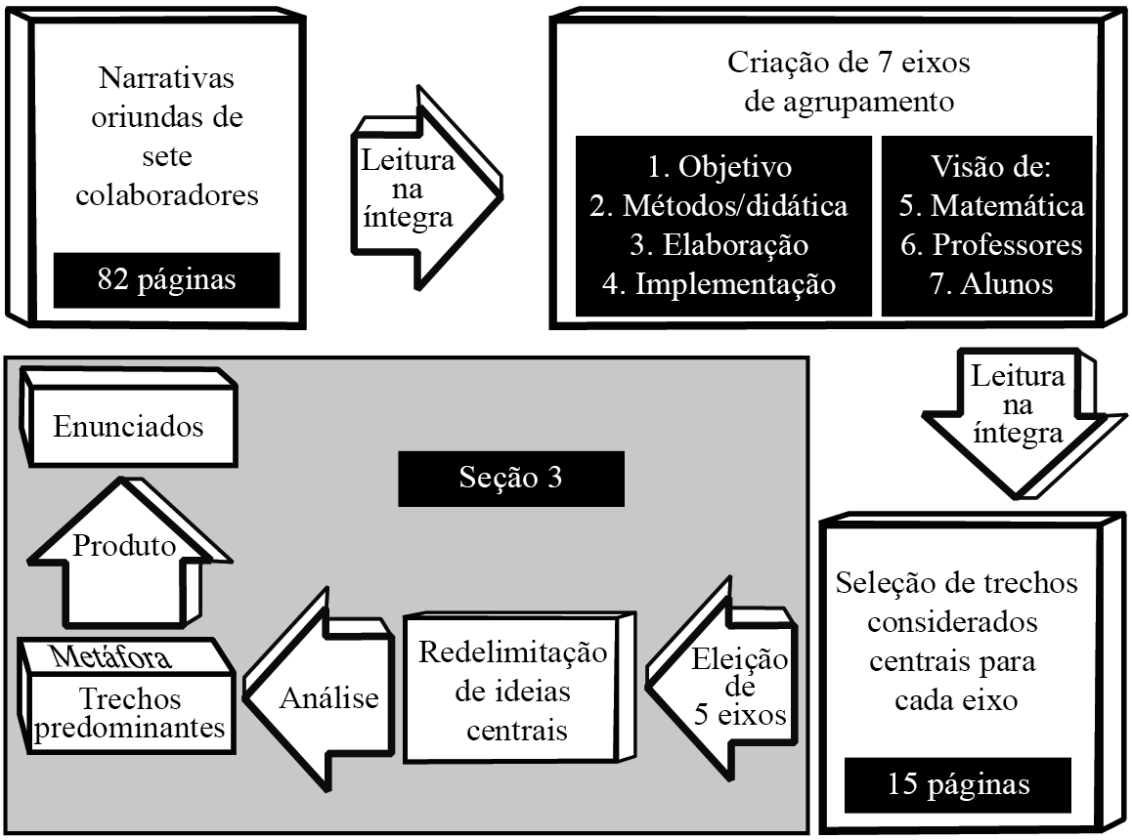

Figure 1.

Narrative analysis procedure (The authors, 2025)

As shown in Figure 1, we initially read the narratives (82 pages) taken from the interviews with the seven pedagogical technicians. We organized them into seven previously created axes: (i) Objective, (ii) Methods/Didactics in Mathematics Education, (iii) Elaboration, (iv) Implementation and Vision of (v) Mathematics, (vi) Teacher, and (vii) Student. In a new reading, we selected excerpts (15 pages) that best fit within each axis.

Considering the schematized excerpts, we excluded axes (iii) and (iv), given the extension limit of this research. Furthermore, such axes interact with other factors, such as Folhas Project, the Public Textbook, and the Collaborative Learning Objects—sufficient elements for other studies.

Having selected the five axes and their respective excerpts (9 pages), we redefined the central ideas, i.e., the predominant discourses within the narratives, which symbolize alignments or divergences from the perspective of the pedagogical technicians because, "if the meanings are multiple, there is no derivation of meanings, on the contrary, what can happen is the establishment of one of them as dominant" (Orlandi, 2023, p. 203).

This redefinition generated the excerpts that we present throughout this section, along with their respective analyses based on the metaphor, to explore the non-transparency of language. At the end of each axis, we provide the construction of a statement that also integrates the result of this investigation.

Observing the narratives developed, four collaborators mention the objective of the DCE-PR for Mathematics, highlighting the centrality of mathematics education as a fundamental prerequisite for elaboration. The highlighted excerpts were as follows.

- C1: *But, finally, in the final scope, in* ***the product, the fundamental idea of mathematics education****, of articulating teaching and learning with mathematical knowledge, this fundamental idea was maintained.*
- C2: *The discussions with the teachers, which we had at all the formative events, all of this was bringing a different perspective to the text that was being written,* ***in order to visualize the proposed mathematics teaching, based on mathematics education***.
- C4: *From one version to another, we didn't notice so many changes, because, from the beginning, we already had some things defined: Not using PCNs,* ***using mathematics education,*** *and thinking about the structuring contents.*
- C6: *So it was thought of as a comprehensive curriculum. It was not viewed as a curriculum, much less a static one,* ***but rather as something that could really provide direction and, from there, the development***.

Thinking about the discursive functioning of this curriculum document, described by Orlandi (2023) as the structuring activity of a given discourse, mathematics education predominates in place of paraphrase, while discussions, articulations, and scopes are situated in the space of polysemy.

> Hence, the statement that paraphrase is the matrix of meaning, as there is no meaning without repetition, without support in discursive knowledge, and polysemy is the source of language, since it is the very condition of the existence of discourses, because if the meanings –and the subjects– were not multiple, could not be others, there would be no need to say. Polysemy is precisely the simultaneity of distinct movements of meaning in the same symbolic object. (Orlandi, 2020a, p. 36)

Therefore, mathematics education is considered the matrix of the meaning of the DCE-PR for Mathematics, composing an initial and authoritative academic discursive repertoire that must be taken as a principle, for, according to Orlandi (2023), every language is seen from the

perspective of authoritarian discourse, since they disarticulate the characteristic of interlocution, which is the speaker/listener articulation.

This functioning shapes the conditions of production, not only of the DCE-PR, but also the materialization of narratives within the movement that encompasses, as a whole, the emission and reception of what can be politically said.

Even though mathematics education is situated within authoritarian discourse, its relationship with interlocutors opens up space for new interpretations and meanings, i.e., there is an openness to polysemy that, when articulated with mathematics education, fosters the predominance of the controversial discourse typology.

Controversial discourse can be understood through particularizing perspectives that seek to give it a particular direction (Orlandi, 2023) or even through the tense relationship between paraphrase and polysemy (Orlandi, 2020a). In this typology, meaning flows and remains in dispute among individuals—collaborators, mathematics education, and teachers.

Regarding the subject assignment, there are three levels: "–The subject of the statement, which derives from the analysis of the linguistic context. –The subject of the enunciation, which derives from the analysis of the context of the situation. –The textual subject, which derives from the consideration of the text as a whole, that is, from the textual context" (Orlandi, 2023, pp. 237-238).

In the case of narratives, the subject of the statement predominates through mathematics education, as well as the subject of the enunciation under the collaborators and the textual subject, through the articulation between guidelines, principles, and purposes in mathematics teaching and learning.

The separation between subjects is pertinent to situate the predominance of the interviewees' location in relation to the process of constituting the DCE-PR, shaped by the subject of the statement. The collaborators highlight, in their statements, the presence of impersonality (so it was thought; it was maintained, it was being, etc.) –reinforcing mathematics education as a matrix of meaning–, or even –the idea of collectivity (we did it; we did not notice, etc.) – the emphasis on group work.

Of the seven collaborators, only Collaborator 6 mentions the flexibility of mathematics education for appropriation by teachers, when he states that "*On the other hand, the use of methodologies was also not imposing. I give you the tools, if you want to use them, we are here. If you want to continue with your traditional method, that's fine, okay, no problem.*" Still in this position, the 'we' is affiliated with the subject of the statement, i.e., mathematics education – typical of the DCE-PR– while the 'you' remains isolated from the proposed methodologies.

Regarding the methods/didactics that permeate mathematics education, the narratives discussed the use of methodological trends and, collectively, cited: mathematical modeling, ethnomathematics, history of mathematics, problem solving, and the use of technologies. One of the interviewees also mentions the progressive stance inherent in the DCE-PR.

We selected some excerpts from the narratives for analysis, as follows:

- C1: *And within mathematics education, we have trends in mathematics education, so we took texts from the trends and forwarded them to teachers.* ***These were texts that we forwarded to the teachers for theoretical grounds****.*
    - Slippage: Teachers demand theoretical grounds.
    - Unsaid: Teachers remain without theoretical grounds.
    - Unsaid: Need for theoretical repertoire.
- C2: I remember **that two were a little challenging**: to formalize the text, mathematical modeling, and ethnomathematics, **because, despite being trends, they have different fronts, according to the subsequent theorists.**
    - Slippage: The theoretical aspect is driven by the fronts of methodological trends.
- C3: *We would go, for example, to the Londrina Regional Center, prepare courses,* ***continuing education for teachers to apply in the classroom****, we suggested topics that were really interesting, that were out of the ordinary,* ***that stimulated the teacher****.*
    - Slippage: Teachers are tasked with utilizing trends in mathematics education.
    - Slippage: Methodological trends move away from the commonplace.
    - Unsaid: The theoretical framework legitimizes and enhances teaching practice.
- C6: *The guideline came with this proposal: to make five or six existing methodologies available and for you to identify which will be best for you to use or not.*
    - Slippage: The DCE-PR comprises a repertoire of trends in mathematics education that teachers can use.

- C7: *This is to be able to understand **how mathematics**, indeed, acts in your life, not just for what I am going to use it in my life*.
    - Slippage: Teaching based on mathematics education trends considers 'how' the content acts in students' lives.
    - Unsaid: Mathematics as an instrument of legitimation.

The collaborators emphasize the centrality of mathematics education in a process where academic discourse is projected onto school discourse. Furthermore, the correspondence between school reality and the DCE-PR remains conditioned by the sieve of methodological trends. It is worth highlighting that the academic aspect predominates, with practical aspects being linked to methodological trends. The narratives center the discussion around the content and 'how' mathematics is implemented in the students' lives.

Although one interviewee mentions the progressive intention of the DCE-PR, this factor does not find correspondence in the other narratives, either due to the lack of mention of the idea of social transformation, problematizations, or even mathematics as an instrument that naturalizes the reality of students, that is, in the way in which (and not 'why?', 'in favor of whom', etc.) it is present in their lives.

A central highlight in the DCE-PR, referring to the approach to methods/didactics in mathematics education, occurs through the attempt to shift meanings from school discourse to academic discourse, the latter being considered legitimate.

Addressing the issue of legitimacy, Orlandi (2023) highlights two types: law or convention. Mathematics education, in this dynamic, is situated under the aspect of convention, understood as a parameter that, within a group of people, is considered valid due to the rational belief based on values in an established merit (Orlandi, 2023).

On the methods/didactics axis, the topic directed towards evaluation remains the greatest difficulty in writing the document.

These constructions encourage the following statement: **The sieve of methodological trends orchestrates the functioning of legitimate school practices**.

When it comes to the concept of mathematics, the collaborators present different conceptions, as follows:

- C3: *Not necessarily achieved in its entirety, but that's how it was, we considered the entire mathematical construct up until then, but always contextualizing it and helping* ***students understand that scientific, historical construction****; how humanity got there, at that moment.*
    - Slippage: Mathematics is a scientific construct.
    - Statement: Teaching mathematics consists of sharing its fundamentals and contexts.
- C5: Regarding the mathematics proposed in the DCE-PR, we worked with a focus on problem solving at the time.
    - Statement: Mathematics consists of problem solving.
- C6: [...] different from our training, where we had the 'assemble and perform', but something about contextualized problem situations, that **the student can understand their reality,** the surroundings of their reality and, **in that reality, identify that mathematics is present,** that it is present in our daily lives, **sometimes unconsciously we are doing mathematics**, without realizing it.
    - Statement: Mathematics resides in contextualization to understand reality.
    - Statement: Mathematics goes beyond scientific construction.
- C7: *So, it was very much in* ***that sense, a mathematics that could give this access, understand some things about your world****, your space, a real spatial world, understand, with the* ***idea of understanding and transforming and having access to scientific knowledge in all areas.***
    - Statement: Mathematics understands life.
    - Statement: Learning mathematics involves understanding scientific knowledge.

This axis of analysis of narratives delineates a plurality of visions that contemplate mathematical knowledge, with a predominance of a scientific perspective, which can extend to plural conceptions of mathematics, particularly in light of the tendency towards ethnomathematics.

In narratives, when mathematics is presented through scientific language, it is linked to the understanding, interpretation, recognition, and densification of reality. In contrast, when mathematics is linked to the multiplicity inherent in ethnomathematics, notions of identification and respect predominate.

The common point among all contributors concerns the vision of mathematics that demands contextualization away from a utilitarian bias. At the heart of this discourse lies contextualization as a driver for learning, predominantly used in conjunction with scientific abstraction.

A sensitive aspect mentioned by collaborators refers to the inclusion of non-Euclidean geometries in the DCE-PR, a movement that met some hostility from mathematics teachers in the state network and symbolized a challenge that crosses both narratives.

In terms of mathematics, we present the following statement: **Mathematics present in the DCE-PR predominates in a scientific form with the aim of understanding reality.**

Delving into the teacher's perspective present in the narratives originating from pedagogical technicians, the following central excerpts stand out:

- C1: *But, I believe that the main success we had was the idea of dialoguing with the entire public education network. [...].* ***To try to talk to these teachers was a good idea****.*
    - Unsaid: It would be a mistake not to engage in dialogue with teachers.
- C2: [...], *to discuss directly with the teachers the text that was being prepared,* ***what the contribution to them was, and what their suggestions were***.
    - Slippage: Teachers make contributions.
- *C3: It was very dynamic, it wasn't just concentrated in the Secretariat. I valued a lot* ***the classroom teacher, the teacher-researcher****.*
    - Slippage: The valued teacher is the teacher-researcher.
- C4: *Math teachers met to* ***study texts that would be used in the theoretical grounds of the Guidelines****. They were texts about mathematics education, methodological trends, and mathematics teaching and learning*.
    - Slippage: Teachers lack a theoretical foundation.
- C6: *Some subjects brought a new proposal, but the university itself,* ***PhDs, and professors of the institute confronted each other, those who wanted to follow traditional mathematics, mathematics for mathematics's sake, and mathematics educators***.
    - Unsaid: Those who follow traditional mathematics are not mathematics educators.

The theoretical repertoire of mathematics education has a direct influence on teachers' perspectives, and its recognition remains contingent upon academic studies in the field.

Even if their vision is considered, legitimate discourse remains guided by the theoretical core in the space of paraphrase and its adaptations within the scope of polysemy; i.e., teachers demand the reproduction of academic perspectives for the subsequent search for new insights in the face of possible adaptations.

In other words, the sources of teachers' contributions do not cover both school practices or realities themselves; the school's participation begins to be recognized through the lens of mathematics education, conditioned by the objective, already discussed, of the DCE-PR. The classroom experience is portrayed as a parameter for adjusting the adopted methodological trends.

Among the indications found in the reports and analyses are the teacher's vision, which is responsible for theoretical knowledge, and mentions of the teacher-researcher, as well as the visions of mathematics educators conditioned by the theoretical knowledge of trends in mathematics education. These mentions reinforce the legitimacy of academic discourse and highlight another aspect of the convention. "A convention is a custom that, within a group of people, is considered valid and is guaranteed by the disapproval of discordant behavior" (Orlandi, 2023, p. 125). Hence, possibly, the friction between 'PhDs and professors' mentioned by Collaborator 6 (C6).

In this movement, the mathematics education discourse is institutionalized and institutionalizing. It is institutionalized by the academic environment and by the 'PhDs' who support it; i.e., the mathematics education approach make PhDs' and researchers' discourses speak, and it is institutionalizing when designed for the school reality and when it formulates hierarchical relationship between teachers and mathematics educators; the latter, when affiliated with academic discourse or even when adopting the teacher-researcher approach (the direct incorporation of the source of institutionalized discourse).

In the axes of analysis and reports, there is perhaps an overemphasis on methodological trends. Mathematics education appears to have a strong direction that instrumentalizes approaches, insofar as conceptual criteria regarding purposes, principles, or paradigms are

rarely employed. The experience of teachers, in this context, predominates in determining how to implement or make viable various methodological trends.

From this axis, the following statement stands out: **The teacher (researcher) is academically institutionalized due to the lack of methodological instruments**.

Regarding a student's perspective, we highlight the following excerpts:

- C1: *The fundamental idea was this: a progressive,* ***historical-critical*** *formation that could* ***have an autonomous student, an inquisitive student****, a student who had the theoretical, methodological, and practical tools to* ***solve problems in the world around them***.
    - Slippage: We aspire to cultivate critical and questioning students who solve problems **in** the world.
- C3: *The intended student, within the DCE-PR of Mathematics, was the student who had a* ***critical awareness of what he/she was learning****, in the formation of a true citizen, a critical citizen. [...]. We wanted a questioning, investigative student* ***who also built knowledge***.
    - Slippage: The aim is to have students with critical awareness who also construct knowledge.
- C4: *In relation to the student who was thought of within the Guidelines, I think we defined him/her as an active subject, who builds and experiences knowledge*.
    - Slippage: The student is an active subject who constructs knowledge.
- C5: *The student, all the time,* ***since when we started talking with the teachers about this development,*** *in the discussion of the material, for their contribution, the student was the first, he was the leading actor there among the teachers, [...].*
    - Slippage: The student is the main actor for the teachers.
- C6: *When you can make this connection between content and a student's reality, they understand* ***why that mathematics, without offering resistance to teaching. Because it becomes something interesting for them, it is attractive***.
    - Slippage: Being a student means understanding mathematics through reality in an interesting and engaging way, with a commitment to the content.
    - Unsaid: Learning math is understanding its whys.
    - Unsaid: Mathematics teaching must explain reality.
    - Absence: Questioning.

- C7: *Basically, we thought of the student as one who, through mathematics, could transform the world, among other things,* ***but also that through mathematics can make the transformations****. [...] In Geometry,* ***because geometry translates*** *the space where one lives, Algebra, which is a structuring content,* ***so you can have an abstraction****, can lead the student to have an abstract understanding, to be able to abstract things,* ***transform something into a scientific language****, [...].*
    - Slippage: Being a student means transforming the world through mathematics.
    - Slippage: Learning math involves **translating** and **abstracting** the space into scientific language.

Among the seven collaborators, only the C1 mentions the perspective of a historical-critical foundation, while the others discuss the relationship between school and reality from different approaches.

Although little present in the conception of mathematics or methodological trends, characterizations such as questioning, critical awareness, and active participation are present in the desired student posture.

On the other hand, the idea that mathematics serves as a tool to translate society's needs predominates, emphasizing mathematical concepts through scientific language. Contact with this reality with students opens up space to recognize them as producers of knowledge, a concept rarely described in the narratives.

While C1 mentions a progressive perspective that positions the expression 'transformation' alongside social criticism, we realize that this same term derives meaning for C7, who uses the same word to make associations with scientific language accompanied by social legitimacy. Considering these two discursive structures within the narratives, C7's logic strongly predominates, just like C6, who mentions the approximation of the content with reality linked to non-resistance (submission) on the part of the students, since 'students understand why,' instead of questioning it.

Furthermore, contact with teachers is reported as a bridge to understanding the students' profile and, even, which methodology would best adapt to the reality of Paraná.

Most contributors envision a mathematics that breaks with the utilitarian bias, although, at times, they also consider it relevant.

In this axis, we produce the following statement: **The student is inquisitive, translating the world through the construction of scientific language, and is endowed with critical consciousness**.

Final considerations

Based on the general objective, we produced statements considered central in the narratives of the seven mathematics pedagogical technicians regarding the five delimited axes.

Through the narratives of technicians and pedagogical techniques involved in the elaboration and implementation of the DCE-PR of Mathematics, it was possible to identify central statements that reflect the different dimensions of this curriculum policy. The five axes of analysis — Objective, Methods/Didactics, Vision of Mathematics, Teachers, and Students — provided a framework for understanding how pedagogical discourses manifest and institutionalize themselves.

Oral history as a constituent of a historical form allied to DA enabled the densification of the meanings that permeate the DCE-PR of Mathematics, emphasizing, mainly, the sieve and emphasis of methodological tendencies for the functioning of legitimate school practices, the predominance of mathematical knowledge in the scientific form in order to understand reality, the teaching figure linked to the role of researcher institutionalized methodologically by the academic environment and the vision of the student moved by the learning of scientific language, provided with questioning and critical consciousness (even if the conception of mathematics not necessarily is).

Throughout this investigation, some hypotheses emerged, which we highlight: (i) the approaches to mathematics education, due to their conceptual fundamentals (principles of methodologies), might demand time and effort that would make the bridge with schools unfeasible. Hence, the importance of continuing education is supported theoretically broadly and consistently.

A second hypothesis arises from that (ii) the emphasis on methodological trends is possibly why the narratives present different conceptions of mathematics, appropriations of terms (such as 'transformation'), or even highlight a particular difficulty in constructing the assessment section of the DCE-PR.

A deepening of this research can be promoted by emphasizing the process of elaboration and implementation of the DCE-PR in Mathematics, as well as contemplating the Folhas Project, the Public Textbook, and the Collaborative Learning Objects.

References

Alberti, V. (2005). *Manual de história oral*. 3 ed. Rio de Janeiro: FGV.

Delgado, L. A. N. (2003). História oral e narrativas: tempo, memória e identidades. *Revista da Associação Brasileira de História Oral,* [S.l], n. 6, p. 9-25. DOI: https://doi.org/10.51880/ho.v6i0.62.

Garnica, A. V. M. (2007). *Manual de história oral em educação matemática:* outros usos, outros abusos. Seminário Nacional de História da Matemática, Guarapuava. Garnica, A.

V. M. (2015). História oral em educação matemática: um panorama sobre pressupostos e exercícios de pesquisa. *Revista História Oral,* Práticas Educacionais e Interdisciplinaridade, [S.l.], v. 18, n. 2. Disponível em: https://revista.historiaoral.org.br/index.php/rho/article/view/559. Acesso em: 17 jan. 2023.

Gattaz, A. C. (1996). *Lapidando a fala bruta: a textualização em História Oral*. In: Meihy, J. C. S. B. (Org.). (Re)definindo a história oral no Brasil. São Paulo: Ed. Xamã. p.135-140.

Larrosa, J. (2002). Notas sobre a Experiência e o saber da experiência. *Revista Brasileira da Educação*, [S.l.], n.19, p. 20-28. DOI: https://doi.org/10.1590/S1413-24782002000100003.

Lopes, A. C. (2006). *Políticas de currículo em múltiplos contextos*. São Paulo: Cortez.

Meihy, J. C. S. B. (2014). *Manual de história oral.* São Paulo: Loyola.

Orlandi, E. P. (2007). *As formas do silêncio*: no movimento dos sentidos. Campinas: UNICAMP. Orlandi, E. P. (2020a). *Análise de discurso*: princípios & procedimentos. 13 ed. Campinas: Pontes, 2020a. Orlandi, E. P. (2020b). *INTERPRETAÇÃO*: autoria, leitura e efeitos do trabalho simbólico. 5. ed. Campinas: Pontes. Orlandi, E. P. (2023) *A LINGUAGEM E SEU FUNCIONAMENTO*: as formas do discurso. 7. ed. Campinas: Pontes.

SILVA, T. T. (1999) *Documentos de identidade*: uma indrodução às teorias do currículo. Belo horizonte: Autêntica.

Thompson, P. (1992). *A voz do passado*: história oral. São Paulo: Paz e Terra.