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New Cognitive Practices in a Master's Thesis Proposal Writing Seminar.

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CHAPTER 1. NEW COGNITIVE PRACTICES IN A MASTER'S THESIS PROPOSAL WRITING SEMINAR

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Genres direct thinking and cognitive development by placing writers in defined problem spaces which give shape to the work to be accomplished. – Bazerman, Simon, Ewing, and Pieng (2013, p. 532)

Different authors have addressed the concept that writing can potentially function as an instrument to construct knowledge, challenging the idea that written language merely communicates already elaborated thoughts. Writing-mediated thinking tends to modify the thinking process, thus impacting the writer's knowledge. However, less explored is the notion that certain writing practices mold writers' cognition, beyond transforming their knowledge on the topics they are writing about. These uses of writing as a technology "allow [writers] to perform not only the same tasks more efficiently, but also to perform new tasks and new cognitive operations" (Salomon, 1992, p. 143). Charles Bazerman (2009) elaborates this concept through a sociocultural lens. He argues that framing our work under specific genres shapes not only our knowledge but human beings as knowledgeable subjects.

The hypothesis that "genres provide and scaffold highly differentiated communicative spaces" in which people "learn cognitive practices from specialized domains" (Bazerman, 2009) has received little empirical support since the effects of writing on cognition are hard to unravel because they take place over time and are embedded into different practices (Russell & Harms, 2010).

In this chapter, drawing from the previous hypothesis, I explore the experience that students attending a master's in teacher education program go through when they start writing their thesis proposal in a thesis proposal writing seminar. With this aim, I review the literature on the epistemic potential of writing, and the cognitive consequences of literacy. I focus on the notion of genres as tools that help organize social interactions while also shaping the participants' cognitive activity. Subsequently, I provide a description of the writing seminar from which I gathered data. I, then, analyze the participants' dialogue in online video lessons on Zoom and their written interchanges in the virtual classroom, which were collected during campus closure due to the pandemic. The question that guides my analysis is what specialized cognitive practices the students in this master's program start developing when they engage in writing their thesis proposals.

WRITING AND THE SOCIALIZATION OF THOUGHT

The writing to learn approach (Klein, 1999), related to the WAC movement (Bazerman et al., 2005; Russell, 1990), has spread the notion that writing not only communicates what is already known but also helps shape writers' knowledge. Many authors have fostered writing in all curricular areas so students can use writing to grasp and integrate knowledge of the contents they write about, both in higher education (e.g., Carlino, 2005; Chalmers & Fuller, 1996; Coffin et al., 2003; Gottschalk & Hjortshoj, 2004) as well as in primary and secondary education (Aisenberg & Lerner, 2008; Haneda & Wells, 2000; Lerner, Larramendy & Cohen, 2012; Tolchinsky & Simó, 2001; Tynjälä, Mason & Lonka, 2001). Although critical reviews by John Ackerman (1993) and Ochsner and Fowler (2004) alert on the data disparity on the relationship between writing and learning, numerous studies have shown that writing, under certain conditions, functions as a semiotic tool that affects knowledge construction. The notion that writing can serve as a thinking method challenges the widespread view that considers "writing as a textual product (rather than an intellectual process)" (Carter et al., 1998, p. 5).

Writing, as a technology of the word, externalizes thinking and makes it stable in time, thus enabling its critical revision (Ong, 1982; Young & Sullivan, 1984 - in Klein, 1999). From a cognitive psychology viewpoint, knowledge is transformed by means of the interaction of the content space (what one has to say) and the rhetorical space (audience and purpose for writing) (Bereiter & Scardamalia, 1987; Scardamalia & Bereiter, 1992). It is the dialectic tension between both problem spaces that leads to deepening the reflective thinking mediated by writing. In this way, there is not an "automatic consequence" of writing in subjects' thinking processes, but its effect is relative to how writing is addressed (Scardamalia & Bereiter, 1985).

From a pedagogical stance, Judith Langer and Arthur Applebee (2007) concluded that the effect of writing on learning depends on the writing tasks set out in class. Subsequent studies in psychology have shown that it is decisive to consider what the writer does and what the task environment is like (Klein & Boscolo, 2016; Klein et al., 2014). In a systematic review of published articles about writing in science, Gere et al. (2019) found that "specific components of writing assignments—meaning making, interactive processes, clear expectations, and metacognition—correlate highly with the greatest learning gains among students" (p. 129).

In the 1960s, from a macro perspective, historical, and anthropological studies examined the "consequences of literacy" in literate societies giving rise to the "great divide" thesis, i.e., the difference in the minds of people in oral and in literate cultures (Zavala et al., 2004). Nevertheless, ethnographic and intercultural research (Street, 1984; Zavala et al., 2004) contest the autonomous and decontextualized view of writing in these early anthropological studies. These authors show that literate practices differ from one community to another. The intellectual consequences of being literate depend on participating in some of these social practices, not on the effectiveness of writing itself (Scribner & Cole, 1981). Thus, specific uses of writing-inherent to particular socially organized activities-would influence the community members' cognition. Following Applebee's review of studies on the socio-cultural consequences of literacy (1984), the effects of writing vary according to "the functional roles that writing and literacy play in particular cultural or individual settings" (p. 581). So, what is socially done with writing (what writing helps do) is a determinant variable in considering writing as a transforming power of thought.

According to Bazerman (2006), the cognitive consequences of literacy have to be understood indirectly, in regard to the transformations that writing has contributed to producing throughout the history of societies and cultures, rather than to isolated individuals. The cognitive effect is framed within the cultural effect. In this sense, Bazerman draws on Goody's work to claim that, historically, writing has contributed to shaping institutions, whose social practices in turn shape subjects' attention and thought. These practices modify "the cultural and social environment within which each person experiences, thinks, and acts with available cultural tools and socially available responses" structured as genres (Bazerman, 2006, p. 219).

GENRES AND ACTIVITY SYSTEMS AS CHANNELS OF THOUGHT

In this work, I explore Bazerman's hypothesis framed within the Rhetorical Genre Studies (RGS) developed in North America and fertilized by Russell's contribution, which links genres with activity systems. Russell and Bazerman draw upon the Vygotskian tradition regarding the role of language in shaping higher psychological functions. From this perspective, cognitive functioning is

not independent of the tools used. On the contrary, the specificity of culturally developed tools shapes individual mental operations. As a cultural tool, language structures human activities conveying social categories whose internalization reorganizes participants' perceptions and thinking (Bazerman, 2016a, p. 380).

My analysis below focuses on "what people are doing and how texts help people do it, rather than on texts as ends in themselves" (Bazerman, 2004, p. 319). For this reason, the RGS groundbreaking definition of genre, "typified rhetorical actions based in recurrent situations" (Miller, 1984, p. 159; Miller, 1994, p. 27), becomes relevant since it does not focus on the formal features of a kind of text, "but on the action it is used to accomplish" (Miller, 1984, p. 151; Miller, 1994, p. 20). In Bazerman's terms: "Genre is a sociopsychological category which we use to recognize and construct typified actions within typified situations" (1988, p. 319).

Following this perspective, genres contribute to the organization of activities and help the community members anticipate the expected modes to participate in reiterated social situations. In written communication, when the interactants do not share either time or space, the organization of the activity that genres provide helps mitigate misunderstandings. Even more, genres not only serve to organize social activity but also set purposes: "what we learn when we learn a genre is not just a pattern of forms or even a method of achieving our own ends. We learn, more importantly, what ends we may have" (Miller, 1984, p. 165; Miller, 1994, p. 32).

Thus, genres structure activities and "embody . . . social intentions" towards which participants can orient their energies (Bazerman, 1994, p. 69). In this way, people who write following the expectations created by the genres are shaped by "the roles and relationships open to us" within an environment of specific socio-cultural practices (Bazerman, 1994, p. 83). Given that genres differ from one domain to another, "disciplinary or practice-based thinking is differentiated according to the nature of the domain" (Bazerman et al., 2013, p. 532).

Russell links Bazerman's (1994) concept of genre system with Y. Engeström's notion of activity systems, rooted in the Vygotskian socio-historical theory (Russell, 1997, p. 505). Writing and genres are tools through which human beings carry out their purposes. Appropriating a new genre, learning the habitual and functional discursive uses in a particular situation and field, also means appropriating these instruments and the motives involved in the genre-mediated activity system. The process of learning to write in a new genre entails expanding the activity systems in which one can participate, and may bring about "subjectivity (identity)" challenges (Russell, 1997, p. 516).¹

¹ Several studies examine the identity transformation and tensions when subjects join a new

Within this framework, researching the uses of writing in complex activity systems contributes to studying the higher cognitive functions, following the Vygotskian program. Thus, the modes of social organization of the activity, embodied in the genres, could be seen as shaping the formation of the collective and individual minds (Russell & Bazerman, 1997).

It should be noted that this perspective goes beyond the idea of writing as a tool to understand, learn, and construct *knowledge on the topic* we are writing about. Following Bazerman (2009), when we learn to write under an unfamiliar genre, we also develop new types of cognitive work according to the genre's social activity system. As writers appropriate the genre, they engage in novel thinking practices to carry out the purposes inherent in the new activity system and acquire the forms of attention and reasoning typical of the genre. Carter (2007) calls these thinking practices "ways of knowing" and "doing."

In this way, genres constitute a chain of transmission through which social practices shape individual cognition: "genres identify a problem space for the developing writer to work in as well as provide the form of the solution the writer seeks and particular tools useful in the solution. . . . Thus, in school and in the professions, the interaction between the group and individual cognitive development can be seen as mediated by activity system-specific genres" (Bazerman, 2009, p. 295). In this framework, Bazerman, Simon, Ewing, and Pieng (2013) studied prospective teachers' pieces of writing produced in a teacher education program over two years. Their study revealed that the writing carried out in their training helped them develop specific modes of thought of the domain in which they began to participate.

MY STUDY

The data I analyze in this chapter consists of oral and written exchanges between the graduate students and the instructor during the first part of the thesis proposal writing seminar in the Master's in Teacher Education at Universidad Pedagógica Nacional (UNIPE). This young, state, and tuition-free Argentine university mainly offers education for practicing teachers, who are, in turn, teacher educators.

The master's program entails two-years of coursework plus a thesis. The thesis implies carrying out a research project on an educator's activity. It presupposes observation and post-observation interviews. The master's program aims to train teachers to analyze teaching activity and help them develop a collaborative

activity system and the implied genres. See, for example, Carlino (2012) and Lundell and Beach (2003), on post-graduate writing. And see Gere (2019), Ivanic et al. (2009) and Thaiss and Zawacki (2006) on undergraduate programs.

attitude with the prospective teachers in the initial education program under their care. It seeks to promote shared reflexivity based on analyzing the traces of the classroom activities (e.g., video recordings).

The writing seminar is delivered in Spanish as it is usual in Buenos Aires, Argentina. It consists of 60 class hours divided into 15 monthly synchronous lessons on Zoom, 4 hours each, during three semesters. This schedule allows the instructors to follow the graduate students in their writing of a 7,000-word thesis proposal that should be submitted to an external board before they can start their research project. Framed within a situated pedagogy, i.e., non-propaedeutics (Carlino, 2012; Carlino, 2013), the seminar adopts Delia Lerner's concept (2001) that the core content in teaching writing is to teach "los quehaceres del escritor" ("the writer's work" or "the writer's tasks"). This notion entails what writers typically do when they write in a certain situation —in its social, rhetorical, linguistic, attitudinal, and cognitive dimensions. Lerner's pedagogical stance is consistent with Rhetorical Genre Studies' concept of genre as social action and with Bazerman's thesis that individual cognition is socialized through the activity the genres imply. Lerner, RGS, and Bazerman underline the pragmatic and practical nature of writing. They agree on highlighting the purposes, the context, the meaning, and the action rather than the formal aspects of language, the decontextualized norms, and the transmission of declarative knowledge. In this view, the seminar attempts to help the graduate students participate in social practices of specialized writing and avoids fragmenting them into decontextualized exercises that turn the activity meaningless.

The seminar syllabus outlines two types of content. The first type, "*The writers' work* that a thesis proposal entails (typical research writing and reading practices)," includes:

Configuring a research problem that combines personal interests and a potential contribution to the debates in a field of study linked to teacher education. Arguing the relevance of the problem through integrating sources that are somehow contradictory, such as professional experiences, specialized literature, institutional regulations. Writing about the research problem as a research gap or disputed knowledge. Exploring, selecting and reading relevant literature to shape the problem and frame the intended study. Formulating research questions that follow from the research problem. (Taken from the writing seminar syllabus)

The second type of content consists of "Characteristics of the research proposal as a discursive genre." It encompasses, among others:

The thesis proposal genre relating to the context of use: situational regularities, proposal functions, typical readers' expectations, and typical textual features. The socio-rhetorical situation in which a thesis proposal is written and read: audiences in different «rows», the asymmetry between author and reader, the writer's and the reader's purposes. (Taken from the writing seminar syllabus)

The seminar has been taught for six years with successive modifications.² At the beginning of the course, the instructor asks the graduate students to write an "autobiography as writers." Under her guidance, approved thesis proposals are analyzed. Students are given assignments that will help them advance progressively with writing each section of the thesis proposal and rework them recursively. In every lesson, students' inquiries are addressed, some students' drafts are collectively reviewed, so they receive multi-voiced comments from their peers and the instructor (Aitchison, 2003; Aitchison & Lee, 2006; Caffarella & Barnett, 2000; Carlino, 2008; Carlino, 2012; Dysthe, 2012; Lee & Boud, 2003). These collective reviews allow making explicit the writer's work involved in writing a research proposal, enabling participants' reflection upon it. Although students' initial knowledge is incipient, their participation contributes to developing it. They progressively learn the criteria to analyze their own production by discussing their peers' texts. Two or three times each semester, the students meet in small groups out-of-class time to review their drafts (Gere, 1987). On Moodle, they post questions arising from this self-managed work, which are later collected and discussed in the following synchronous lesson.

Students pass the seminar when the thesis advisor endorses the proposal, and by delivering a portfolio that shows their reflection on their learning process.

The students (N=30) are between 35 and 55 years old. Most of them are women, teaching secondary school classes and in non-university tertiary degree programs for pre-service teachers. They are highly experienced teachers with little or no research experience. They attend the master's program part time and do not have a scholarship. In the first semester of the seminar, they do not have a thesis advisor appointed.

The instructor, the author of this chapter, has long experience advising dissertations and leading research groups, and has been teaching research-writing seminars for two decades.

² The seminar has been co designed by Liliana Calderón and Paula Carlino. In the 2020-2021 seminar, the students were grouped into two classes. Calderon and Carlino taught one class each. The data in this study was collected from Carlino's group.

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DATA

Data was collected between August and November 2020. Due to the pandemic and the social distancing measures implemented in Argentina, universities turned their on-campus classes to remote teaching (Carlino, 2020). Consequently, the synchronous exchanges during the Zoom classes and the asynchronous exchanges in the Moodle classroom were recorded.

In this chapter, I analyze the exchanges that took place during the first semester of the seminar: the verbatim transcripts of 20 hours of video recorded lessons and graduate students' written participation on the Zoom chat and on Moodle. In this semester, students began to define their research topic and write the research problem statement, research questions, and a justification of the problem on both theoretical and educational grounds. The analysis of the interactions in the synchronous and asynchronous lessons to access the students' intellectual work during the seminar is a distinctive feature of this study.³

The transcript of the recorded lessons and the collected material was read and reread to identify the incipient cognitive practices prompted by the new genre. Progressively I constructed categories, shown in the following descriptive-interpretive analysis.

RESULTS

The analysis of the class oral interactions on Zoom and the written participation on the forums reveals that the graduate students engaged in new "problem spaces" in which they began to glimpse and develop ways of thinking aligned with social, disciplinary practices implied in the writing of the new genre (Bazerman, 2009). The need to produce a research proposal required them to start directing their cognitive and rhetorical efforts towards what researchers in the related domains do, unlike their usual professional activity as teachers.

At this starting point, they were far away from performing as expected at the end of the process. However, the task of developing a research proposal that would be drafted, reviewed, and rewritten over three semesters— directed their attention to novel objects of thought. Writing was not the only driving force at play. Nevertheless, it became the axis around which an epistemic "talk about texts" (Wells, 1990b) developed throughout the seminar. Both the instructor's and the student's participation focused on what they had written or would write. The instructor intervened systematically to help raise awareness of

³ This study draws near to the analysis of class transcripts made by Dysthe (1996), Haneda and Wells (2000), Lerner (2017), and Wells (1990b). My work differs from theirs because it attempts to identify the specialized cognitive tasks the genre mediates.

the core features of the genre and the activity system it represents. This reflection aimed at regulating the writing in progress.

Below, I present part of the oral and written interactions during the sessions in the first third of the seminar.⁴ The aim is to display how learning to write in a new genre transforms the writer. I show that the process of writing the initial section of their thesis proposals implied beginning to perform novel "roles" for these students: *I. Writer, II. Epistemic contributor, III. Thinker of the disciplinary relevance of a research topic, IV. Producer of systematic knowledge,* and *V. Researcher focusing on the teaching practice.* These roles represent five categories of thinking practices implied in the *writer's work* driven by the writing of the thesis proposal in this master's program.

I. Writer: *Many graduate students began to think of themselves as writers for the first time. In their roles as teachers, they would consider themselves mainly as readers.*

A week before the beginning of the seminar, the instructor sent them a two-page narrative about her life experience in writing, and asked them to share their "autobiography as writers" on Moodle:

To start this seminar, we decided to introduce ourselves by telling something about our personal history as writers. . . . Let me tell you something about my story as a "writer," and I make it clear that I call a "writer" any person who writes, although they do not write professionally. . . . (Instructor)

Students shared their written autobiographies before the first lesson; several expressed surprise at being called "writers," as these written excerpts show:

Autobiography as a writer? First of all, I must say that the assignment surprised me. I have never thought of myself as a writer! (Graciela)

My history as a writer (although I feel that the word is too big for me). (Mariana)

I don't consider myself a "writer." (Dora)

It would be easier for me to write an autobiography as a reader. (Selene)

⁴ Participants' pseudonyms go between brackets at the end when written excerpts come from the Moodle platform. Pseudonyms go at the beginning of the turn when they correspond to oral or written dialogues during Zoom synchronous sessions, for which the number of the session and the time of participation are shown between brackets to locate the pieces in a longitudinal process.

Contrary to what can be expected from a language and literature teacher, I don't like writing . . . I've always found it much more interesting to read. . . . I feel more like a spectator than a protagonist. (Naomi)

At first, I didn't see myself as a writer, and I think it's due to the burden this title carries for me. The picture I have in mind is of a person who writes very well, beautifully and cleverly, holds an academically celebrated order and says great or important things. (Noelia)

These self-inflicted limitations of not being able to see ourselves as writers . . . [are due to the fact that] we were educated in the conviction that others write for us to read. (Morena)

The instructor responded to the autobiographical narratives on the written forum and emphasized the new role that the research proposal and the thesis require from writers:

In several autobiographies, the emotion of surprise—and discomfort—at seeing yourselves as "writers" is repeated. . . . Actually, we tend to be more readers than writers. But writing a thesis places us on the way of becoming authors, without doubt, writing so others can read us, producing knowledge, and not only "consuming it." This transformation encompasses learning, switching the enunciative position and the subjective relationship with others. I emphasize this idea if it helps understand the step you took when enrolling in this master's program. And to help you develop patience because achieving it implies, for all of us, going through a very long process of personal transformation. (Instructor)

Many exchanges in the forums and during the Zoom lessons revealed students' struggle to develop their first research proposal. These exchanges also allow us to see that the instructor recurrently made explicit the costly process that writing implies (Carlino, 2012). Engaging in a graduate program that requires writing a proposal for empirical research leads to expanding the activity systems these students have, so far, been part of. The thesis proposal as a genre drives the process of beginning to see oneself as a writer, with the rights and responsibilities this entails.

II. Epistemic contributor: In their attempts to draft the first section of their research proposal, graduate students began to think about epistemic problems, i.e., issues needing to be understood, explained, etc. In contrast, as teachers, they were used to facing practical problems and solving them in practical terms.

In the first lesson, the instructor started a conversation about the socio-rhetorical context of the research proposal and the final thesis. The students initially conceived that research directly provides a solution to practical issues:

Instructor: What does the reader expect from my thesis? (1. 00:42:56)

Sonia: I believe that they expect that it can give an answer to some problematic issues, . . . that it can improve a situation in a specific field. . . . [It] has to solve some problems in education, . . . I have to find a solution to something or improve something. (1. 00:46:12)

Mirta: . . . that it could be an input, . . . a possible solution, in a territory, in a proposal even to the Ministry of Education. (1. 1:04:30)

Fabiana: . . . a contribution to improve specific practices. (1. 1:05:25)

Morena: Two small words would come to my mind: applicability, or practicality, . . . and I would also think it could be socially useful. (1. 1:06:16)

Meanwhile, some students wrote on the chat:

Dora: Contributions to the field in which we are researching. (1. 1:03:06)

Mariana: For me, it has to do with the context; it should be relevant here and now! (1. 1:05: 48)

Considering Dora's message, the instructor clarified that any research should contribute to knowledge. She highlighted that authors need to be aware of this issue when writing a problem statement as part of their research proposal. She also alerted that teachers tend to think of practical problems to be solved. In contrast, researchers aim to develop an understanding of an issue in the first place:

Instructor: Exciting issues arose but let us examine them. . . . Any research implies an essential contribution. This is easily forgotten. . . . As teachers, we are always interested in improving something; we are interested in a practical purpose. We are eager to transform the world . . . But [in] research, . . . an

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epistemic contribution is expected, a contribution to knowledge, not a contribution that transforms a phenomenon, it is not an intervention. (1. 1:08:00)

The chat board continued to reveal students' practical and epistemic perspectives. Mariana seemed to shift her view compared to her previous post:

Sonia: Contribution to curriculum designs. (1. 1:08:07)

Mariana: It may be a science advancement in the disciplinary field. (1. 1:09:22)

Finally, the practical relevance of a research project was discussed. A student grasped the difference between the epistemic (theoretical) and applied significance of a study:

Instructor: The second possible relevance of a research project . . . is a sort of practical or applied relevance. . . . But it presupposes epistemic relevance. In other words, if I construct knowledge that joins the discussions . . . in a theoretical field, it is probable that . . . someone can use it in practical terms to design educational policies, the curricula, teacher training programs, to improve something. Look! This is something practical, applied, but I will only be able to achieve it if my project, my thesis, meets the requirements of being epistemically relevant. (1. 01:14:08)

Juana: I think . . . that . . . the practical relevance . . . is beyond our scope. . . . [O]ur research might contribute and be taken into account, but our research may also contribute but it is not taken into account at that particular moment or in a particular context. (1. 01:14:20)

In the fourth session, two and a half months later, the instructor stressed the value of creating a research problem drawing from their professional experience (and not only from the literature). Again, she underlined the epistemic nature of the research problem, even if it emerged from a practical situation:

Instructor: What is the difference between a problematic professional situation and a [research] problem? A problem is something that is unknown to us and deserves research. The problematic professional situation is not an unknown issue. It is something that is not well resolved. It is a fact that is in an unstable equilibrium. . . . Now, turning it into a research

problem demands raising questions, . . . expressing the desire to understand why this happens. . . . There is a problem of practical action that I have to transform into an epistemic problem, of knowledge. [When researching], I am not going to solve the situation in practical terms [but] I am trying to understand it. If later . . . the knowledge constructed on that situation is helpful or not to . . . solve that practical situation, ok, we will see. (4. 01:21:20 - 1:25:00)

Focusing on the problems of educational practice as a source of epistemic problems implies starting to build a previously uninhabited space of thought. The factual resolution is suspended to enable identifying what needs to be understood or explained. Only gradually, these students managed to perform this researcher's work implied in writing. Writing the first section of their research proposal began to orient their attention toward this new matter.

III. Thinker of disciplinary relevance for a research topic: *Graduate students began to ponder the potential significance of a research problem, i.e., its epistemic relevance for a field, instead of considering a topic that only interests them personally. This intellectual work was radically unfamiliar for them.*

In the first session, the instructor prompted students' discussion about the rhetorical context of a research proposal and the significance of a study. A student shared her emerging awareness of addressivity and the need to consider the disciplinary interest of any research:

> Katia: [Y]ou are introducing an element now with this socio-rhetorical approach, . . . I had not thought before, I had not included this in what interests me when I thought about the thesis project, in the assignment you gave us. I had not thought about who would be interested in reading it. I had only thought about what I was interested in producing. . . . I say, of course! How I did not take it into account! How I could not see it! . . . Now I would have to review my thesis topic because I was thinking about what interested me, but the truth is that I don't know who this might be of interest to. (1. 00:30:45)

In the following session, the instructor underlined that writing the first section of a research proposal implies linking the author's personal interest in a topic with its potential interest for a field of study, its responsiveness to ongoing disciplinary debates: **Instructor:** Because what Lola [a student whose draft is being reviewed] has to do is to construct a research problem that shows how . . . it not only responds to her interest, but it is also interesting for the disciplinary field. . . . Because what the reader expects is that I show them . . . why it is relevant and why studying it will contribute to knowledge. . . . What does "relevant" mean? . . . : That . . . it can dialogue with what is being discussed, what is being debated, in the disciplinary field. (2. 2:30:30)

In order to place their research problem in a pre-existing disciplinary conversation, the students were oriented to identify and read research papers related to the topics they wanted to investigate. This task, also unusual for them, required them to start developing new practices such as bibliographic search and the interpretation of unfamiliar texts to integrate them into formulating their research problem.

The topics chosen for their research projects were predominantly related to their professional teaching work (their teaching area). For example, in August 2020, Selene, a teacher in mathematics, started working on the topic: "Teaching activity at the primary or secondary level with students who have difficulties in learning mathematics and the professionals who work with them." In November 2021, she changed the proposal title to "The teaching activity in the interaction with students whose production in mathematics is far from institutional expectations."

In sum, considering both one's interests and a research territory to join the ongoing conversation is a typical *research writer's task*. It is a novel activity for those starting to write a thesis proposal. Beginning to think about a relevant research problem —with the instructor's guidance— does lead to developing the cognitive practice of harmonizing one's own interests with the disciplinary significance of a study.

IV. Producer of systematic knowledge: Graduate students began to think that research questions—related to the knowledge they aspire to contribute—need to be considered in connection to a method that is able to provide empirical evidence to answer them. Before, as teachers, i.e., "communicators" of knowledge, they did not need to reflect upon the relationship between knowledge and method.

In each of the five lessons analyzed, the instructor fostered considering the relationship between research questions and the appropriate method to address them. This issue was raised when discussing research questions whose

answers could not be reached with the methodological approach required by this master's program.⁵

In the first session, when commenting on a draft, the instructor asked about the relationship between data and research question, and vice versa:

Instructor: What data do I need to answer [this question]? ... I am trying to align, ensure coherence ... between questions and ... methodology.... What data do I need to answer [this question]? (1. 2:45:38).

Noelia: I would like you to repeat it . . . you've lost me. (1. 2:47:40) . . .

Instructor: What data do I need, . . . to answer the question? (silence for 4 seconds) Can anybody risk an answer? (1. 2:49:00)

Sonia: I need to have a film, a video recording of the lesson, to observe the interventions because \dots (1. 2: 49.07)

Instructor: Sonia is saying that we need to observe a lesson. Because if I want to see the interventions, I need to observe the class. . . . Every time I wonder what the teacher does and how they intervene, I need to observe lessons and record them. Yes? I start relating questions with methodology.

Students mismatched research questions and methodological approaches several times. Several times, the instructor promoted similar reflections:

Instructor: How can I answer the following question? [She reads:] "How does a teacher reflect on the gap between . . . what they planned and what they were able to do?" (1. 2:51:50)

Lola: An interview, could it be?

Instructor: What kind of interview?

Lola: Self-confrontation?

Instructor: There is it! . . . That question requires a self-confrontation interview to be answered.

⁵ This master's program basically requires graduate students to conduct an initial interview, then observe classes and later conduct a self-confrontation interview, i.e., an interview in which the researcher and the interviewee see and discuss a video recording of a part of a lesson.

The instructor described the new cognitive task (a typical activity in the research community) and called it "[looking for] coherence between research questions and method." An hour later, Katia wrote this phrase on the chat board, probably to metacognitively capture the mental task that they were performing in the collective review. At the end of the session, the instructor insisted on the need to achieve question-method coherence in every research proposal.

In the following sessions, a few students showed their incipient awareness of this relationship while commenting on a peer's draft:

Noelia: When one thinks about the methodology [in this master's program], we think that we are going to observe a lesson, right? . . . I was wondering: if you think that your case is going to be a school principal, what are you going to observe? Where are you going to do the clipping to make the records observable? Because where are you going to get? . . . Are you going to record the conversation between teachers during a meeting? Or when they enter a classroom to participate in a class or meet parents? From there, I was thinking about what you are going to take away. What is going to be observable? (3. 2:18:44)

Mariana: The questions [that appear in the reviewed draft] . . . cannot be answered with the methodology offered by Professional Didactics. (3. 2:49:28)

Mariana: I don't grasp where [what data] you are going to look at the questions you are asking yourself. (4. 2:43:00)

Thinking about the relationship between research questions and methods remained a challenge for most students. The instructor returned to the question repeatedly:

Instructor: I want us to think . . . for all the questions in other texts . . . what data and what methodology answer the research questions [you are formulating]. (4. 2:50:30)

Instructor: Let's go to the question [in the text that we are working on]; how do you answer it? What data do I need to answer the first question? (4. 3:01:06) [No response for 20 seconds]

Sonia: Observing it in the class. (4. 3:01:27)

Mariana: It can also be prescribed in the teaching plan.

Student: Planning . . .

Ensuring that method and expected data address research questions implies a relational, cognitive, unfamiliar task for these students. In line with Bazerman's notion that "to be able to produce [disciplinary texts], students must develop new ways of thinking and new ways of looking at the world" (2017a, p. 42), the writing of a coherent research proposal drives authors to consider how to generate the desired knowledge. Thinking of a method to address a knowledge gap is part of a social and cognitive practice triggered by writing a research proposal. As a member of a research community, the instructor noticed that the students were far from performing this practice and recurrently guided them to consider it.

V. Researcher focusing on the teaching practice: The need to write a research proposal prompted that the graduate students shifted their attention from their students' learning to the teaching activity because the master's program requires them to observe an educator (principal, teacher, instructor) in a working situation and to reflect on it afterwards. Focusing on what an educator does and thinks was laborious for these participants since, in their teaching role, they were used to looking primarily at their own students.

As the embryo of the research problem, the written assignment given by the instructor between lessons three and four suggested considering a problematic professional situation: some tension or practical disagreement that involved educators. However, several drafts were centered on students, and especially on students' shortcomings as learners, as these excerpts show:

> ... We know the difficulty that it implies for students.... It is common to find students ... who ... encounter difficulties.... Some students do not succeed... (Mariana)

... Students do not understand academic texts... (Dora)

... Throughout these years working in higher education, in a teacher training institution for elementary education teachers, I see that first-year students are greatly heterogeneous... (Ana)

... And here the following question arises, do the students actually have the necessary tools to carry out this work?... (Irene)

... What idea of science do students construct?... (Luana)

To help the graduate students direct their attention to a teacher, the seminar instructor highlighted this issue repeatedly:

Instructor: In the proposals, some of you focused on

problematic situations, but looking at the students. Students who . . . lack specific expected knowledge, greatly heterogeneous groups. . . . However, I need a [research] problem that looks at the teacher. Yes? . . . How can I turn a problem that is considered a students' problem into a teacher's professional problem? . . . I have to talk about the challenge for the teacher. . . . Because I am going to interview teachers, and I am going to focus on observing what the teacher does. (4. 1:37:55)

More than once, the instructor indicated how to rephrase the wording of a draft to switch the focus:

Instructor: [to Ana] Try that the subject of the sentence in the problem statement be the teacher not the students. (4. 1:45:51).

In the following session, one participant mistakenly thought that a classmate's draft focused on the students instead of the teacher. In fact, the text mentioned the students as the background rather than the focus. However, it is interesting to consider her remark because it seems to show a "hypercorrection," which would reveal her recent awareness of the need to focus her research on what a teacher does and thinks:

Dora: Hi. In Fabiana's text, it seems that . . . it is focused more on the student's side than on the teacher's side. (5. 1:28:10)

Instructor: Where do you see that it is more focused on the...? (5. 1:29:31)

Dora: student. . . . (She reads her classmate's text) "When the student is developing their practices in the classroom, the teacher is expected to..." (5. 1:29:40)

Two hours later, in a new cycle of collective reviews of a peer's draft, another participant pointed to a problem statement that did focus on students, and suggested how to change the research questions to shift the gaze to the teacher:

Katia: When I read [Irene's] text, . . . I found something that . . . had happened when you read mine. . . . [W]hen she asks, at the end of paragraph two, (reads) "[D]o the students have the necessary tools to do this job?" . . . I would ask . . . "[W]hat challenges or what problems does a teacher face in this situation?" . . . It would help Irene look a little more at

the teacher . . . and leave a little [aside] the student's problems. (5. 3:11:40)

In sum, the above analysis shows that writing the first section of their thesis proposal—mediated by the instructor's regulation—channeled the participants' thinking into issues that were unfamiliar to them as teachers. The new activity system in which they have begun to participate leads them to pay attention to an infrequent topic for these participants: the educators' professional tensions.

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In the remaining two semesters of the seminar (in 2021), other sections of the thesis proposal were addressed. A preliminary examination shows that, as in the first semester, writing required engaging in new problem spaces, typical of certain domains. For example, having to write the "Background and theoretical framework" section, the participants started to grasp the difference between empirical studies and theoretical positions.

In summary, the set of results and the remaining data that exceed the scope of this article reveals that the classwork around successive students' drafts entailed not only a metalinguistic reflection on the formal features expected in the texts but on substantive aspects involved in writing. This reflection attempted to help perform *the writer's tasks* implied in a thesis proposal. Different discussions took place in this sense: about the enunciative options and their potential socio-rhetorical effects on the situation at stake, the content of the text, the methodological design of the participants' thesis, the writing practices and processes of a disciplinary community, and the emotions arising from the challenges that this experience posed.

DISCUSSION

The analysis of the above data shows that the process of writing a thesis proposal brought about the need to embark on certain thinking practices and play roles typical of members who belong to specialized communities. The socio-rhetorical situation that framed this writing (getting approval by the master's committee) demanded a response (Miller, 1994) (the written production structured according to the thesis proposal genre), and this, in turn, drove such practices (Bazerman, 2009).

The analysis reveals that the thesis proposal as a genre, and especially writing the section "Problem Statement" as required by this master's program, prompted the graduate students to orient their attention to new objects of thought: (1) seeing themselves as writers and not only as readers, (2) constructing knowledge problems (issues which need to be understood) and not only solving practical problems, (3) considering the potential disciplinary significance of a research topic (its relevance for a field of study) and not only the personal interest that it represents, (4) generating research questions aligned with the methods that could address them, and (5) focusing the professional tensions that educators face in a particular professional situation and not only the difficulties that the students show in their learning process. Engaging in these thinking practices proved challenging for students, unfamiliar with the genres used in educational research.

The results support the idea that the social "regulation of textual form" is "intertwined with regulating forms of material experience, reasoning" (Bazerman, 2017b, p. 26). They go beyond the claim that writing contributes to learning and transforming knowledge about the topic of writing. Writing in the new genre prompted the graduate students to start treading through unknown social and historically shaped "environments or habitats" (Bazerman, 1997b, p. 22) where they found themselves having to perceive and perform according to the social expectations embodied in the genre. Regarding the dialectical process proposed by Marlene Scardamalia and Carl Bereiter (1985; 1992), the data analyzed suggest that genre-mediated writing not only transforms knowledge but also begins to transform the knower.

Thus, the process of learning to write a text in an unfamiliar genre drives students to engage in specialized disciplinary work. This process requires them to go beyond their cognitive skills to align them with the ones developed by the community the students want to belong. In this way, genres as social interaction organizers shape the individual mind.

According to Bazerman, genres provide both the "tasks for their thought processes" (1997b, p. 22) and the "means of solution" (2009, p. 295), which are needed to participate in the new activity system. Now, was it only writing and rewriting the thesis proposal that drove students to assimilate the new "habi-tat?" Did the instructor's intervention and the collective reviews of the drafts contribute to the process? In my view, the genre governed a series of mediating gears, i.e., the activity of writing and rewriting the drafts, the exchanges during the joint reviews and in the virtual classroom, and the instructor's intervention. They all served as a testing laboratory that provided the graduate students with a safe environment to try once and again. While Bazerman (2016b, pp. 14-15) states: "[g]enres guide writers in understanding the situations they are writing for, who their audiences are, what form the texts might take, what material might be appropriately included, and what they may accomplish," my data suggests that it was these mediating gears that made visible for the students in the seminar the social expectations conveyed by the genre. Such gears also catalyzed

and scaffolded the process so that the participants could articulate their individual thinking with the social expectations.

How did the instructor contribute? She planned the teaching process to enable the graduate students to start performing the *writer's work* concerning a thesis proposal. Following Lerner's pedagogical approach (Lerner, 2001, pp. 100, 143, 177), once students in the seminar began engaging in an authentic writing practice, their "action" was addressed as an "object of reflection" when the writer's decisions were discussed in the joint reviews. Their action was also considered as an "object of systematization" when generalizable features of the genre were abstracted from a particular draft—becoming relevant to all those who write a thesis proposal and not just the author of the text under review in class. The knowledge put into play during the reflection and the systematization helped students rework their written production.

While guiding the reflection and the systematization activities, the instructor promoted considering the textual and contextual features of the genre. She intervened "in situ, during the revision, . . . at the point of practical need" (Bazerman, 2009, p. 291), providing "explicit teaching to the task at hand" (Bazerman, 1997a, p. 1). This timely teaching orients the cognitive and discursive practices that students are undertaking. It provides an external regulation of attention and action that helps them set objectives, coordinate means, and understand functions. By contrast, writing seminars of a "propaedeutic" nature teach the overall features of a genre for future application, before and outside the point of need (Carlino, 2013).

Discussing their drafts throughout the seminar gradually leads students to start considering the problem spaces that the genre entails and encourages them to attempt perform the expected practices. At the end of the semester, the students' drafts are the products of an unfinished process that continues in the remaining two semesters of the seminar. The analyzed data shows that internalizing the tools provided by the genre and highlighted by the instructor cannot be achieved in the short term. Students start a gradual "mental knitting" process that may enable them to assimilate those tools. This fabric grows progressively as a result of students' work and bridges the gap between their current thinking practices and those needed to succeed in writing their thesis proposals. Students' participation, assimilating the tools at their own pace, enables their knitting of this cognitive fabric, which is neither received preformed nor internalized through the mere exposure to pertinent knowledge.

What did the graduate students' participation in the collective review activity contribute? Talking about the drafts helped them become aware of the thinking practices that the genre entails. This is in line with Gordon Wells' claim: to understand "the mental activities involved," students "need to participate jointly in ... writing events with their teachers or more competent peers, in which these internal activities are externalized and thus made available for appropriation in talk about the text" (Wells, 1990a, p. 16). Collectively reviewing the drafts throughout the seminar became an opportunity to externalize and reflect on the *research writer's work* in crafting the thesis proposal. Also, the different readers' comments freed the graduate students from the habitual expert opinion given by a single evaluator. Unlike the instructors' or thesis advisors' suggestions, which students usually comply with by following the principle of authority, the joint review favors considering the comments without leaving aside their authorship.

Now then, in this activity, not only did the students see how their peers solved their writing problems, or how the instructor's guided them, but they also played the role of reviewers of their peers' drafts. This responsibility progressively led them to help their classmates to achieve what they might have not achieved in their own writing pieces yet. As an instructional device, the collective review goes beyond the zone of proximal development (ZPD) proposed by Vygotsky because, in a collective review, students learn not only from an expert but also learn "by acting as an expert," as they are empowered to play the role even before they are knowledgeable enough. While in the ZPD knowledge is constructed by interacting with a more advanced subject, in the collective review students who cannot still solve their own writing or research problems can gradually help each other.

The collective review throughout the seminar also deserves a methodological consideration. Its video recording allows researchers access to traces of the participants' mental activities at play, as Anne Gere and Andrew Abbott suggest: "Researchers interested in writing processes need to give more attention to writing groups as a source of information about what writers do when they write" (1985, p. 378). The analysis of collective review observations allows getting close to "the reasoning the writer used to produce the article" (Bazerman, 2017b, p. 25).

The methodological approach used in this study differs from other qualitative research that also observes classes to examine disciplinary enculturation or socialization processes but does not usually carry out a detailed analysis of the exchanges, only possible if the recordings are transcribed. In this sense, the longitudinal analysis of the transcribed collective review dialogues constitutes a privileged way to look into *the writer's work* that students begin to perform, and to observe how they are shaped by participant's interaction governed by the unfamiliar genre. This methodology helps glimpse the socialization process in a certain domain.

Unlike Bazerman et al. (2013, p. 531), which showed changes in thinking due to disciplinary training over two years, my analysis does not enable recognizing consolidated cognitive changes, which would have required extending the data collection over time. Neither did my study track some students' written progress as Bazerman et al. (2013) and other longitudinal research (e.g., Gere, 2019) do to identify intra- and intersubjective variations over time.

However, my study's methodological option of analyzing the oral and written exchanges in the seminar became a valuable tool to access the interactive cognitive processes. This option is congruent with the adopted theoretical framework: writing as an intellectual process rather than as a product (Carter et al., 1998), genre as a rhetorical action rather than formal features (Miller, 1984, p. 151), as well as an instrument of "what people are doing" "rather than as ends in themselves" (Bazerman, 2004, p. 319).

Thus, the main contribution of this study is twofold. On the one hand, it details the process of sociocultural shaping of cognition mediated by learning a new genre in a particular situation: it reveals the attentional objects and thinking relationships entailed in the writing of the first section of a thesis proposal in the context studied. It unfolds how the genre *requires* students' engaging in disciplinary cognitive practices. It sheds light on the socialization of cognition channeled by genres, on the "cognitive consequences of literacy" (Bazerman, 2006, p. 216). At the same time, it gives clues about the activity system that newcomers aspire to join, about "the cultural-historical activities that the texts mediate" (Russell & Bazerman, 1997, p. 23). Thus, those who are attempting to write a research proposal for the first time not only have to learn the formal features of discourse but also "the action it is used to accomplish" (Miller, 1984, p. 151). This makes the learning process more complex.

On the other hand, my study displays the design of a pedagogical intervention that scaffolds the learning process and mediates between the demands of the genre and its progressive individual appropriation. The exchanges during the lessons illustrate the type of writing seminars "that help to perform contextualized social actions," as opposed to those that "propaedeutically address partial attributes of language" (Carlino, 2013, p. 362). Given that appropriating a genre entails expanding the repertoire of available ways of knowing and doing, and not only the ways of saying, performing in-context writing seminars seem to fit the instructional goal of teaching new genres, i.e., teaching to participate in social practices that involve unfamiliar ways of specialized thinking.

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