Exploring the Potential of an Inquiry and Disciplinary Literacy Approach to History and Social Science Education in a Public High School in Mexico

by

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Dedication

A la educación pública de mi país.

To public education in my country.

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Abstract

Inquiry and disciplinary literacy are approaches in history and social science education that center students as active inquirers who investigate in multiple sources and come to their own conclusions regarding relevant questions and complex issues. These approaches have been gaining momentum in research and practice internationally, but have not been sufficiently explored in Mexico, where they could be helpful in addressing diverse concerns in history and social science education, as well as in general literacy. In this dissertation, I begin exploring the potential of an inquiry and disciplinary literacy approach in Mexico through a Design-Based Research framework, in collaboration with four teachers at a large, urban, public high school. In Chapter 1, I share an introduction and an overview of the project.

Chapter 2 is the manuscript "Exploring Teachers' Uptake of an Inquiry and Disciplinary Literacy Approach to History and Social Science Education in a Mexican High School." I investigate how the teachers took up inquiry lessons and the design principles behind them throughout a 4-month design and preparation stage and a 5-month implementation stage, in which they taught 2 or 3 inquiry lessons and reflected on them. Data includes recordings, materials, and notes from meetings with these teachers; as well as classroom observation recordings and fieldnotes. The findings show that the teachers appreciated an inquiry approach and took up its core components, as well as inquiry and dialogical features embedded in the guided teaching materials. However, more class time was spent on the preparatory stages of the lessons (building connections and background knowledge), than on the disciplinary literacy practices (evaluating and analyzing sources and writing conclusions), which students largely

completed on their own. Limited instructional time and the teachers' cursory acquaintance with the approach may explain this partial uptake. An added focus on disciplinary literacy practices and pedagogies during teacher preparation and/or embedded in the teaching materials could help address this.

Chapter 3 is the manuscript "Source Evaluation in History and Social Science in a Mexican High School: A Case Study of Beginners' Engagement." It presents a case study of the students in one teacher's classroom (N=33), focusing on their source evaluation as novices in the context inquiry lessons with multiple sources. The study found qualitative nuance indicative of students' incoming strengths and areas of improvement in source evaluation, as well as the ways in which this practice advanced (or had the potential to advance) their engagement with the contemporary and historical issues in their lessons. The study also illuminates the particular demands of evaluating historical sources as opposed to contemporary ones.

Lastly, Chapter 4 provides overall conclusions and implications. The experiences of the four teachers and their students in this study speak to the possibilities and challenges of an inquiry and disciplinary literacy approach in their context, which helps establish a foundation for future work in a broader range of contexts within Mexico. Teachers and teacher educators seeking new ways to elevate the relevance and authenticity of their courses could draw on the core structure of inquiry and disciplinary literacy lessons, or on particular practices and pedagogies within the approach. Moreover, curriculum developers, in collaboration with educators and other stakeholders, could leverage the potential of modular, adaptable inquiry lessons to help address strategic social, disciplinary, and literacy goals of history and social science education for Mexican youth.

Chapter 1 Introduction

The overarching purpose of my dissertation project is to explore the potential of an inquiry and disciplinary literacy approach in Mexican youths' history and social science education, as a stepping stone for my long-term research and work in this field. My underlying hypothesis is that such an approach has relevance and feasibility in the Mexican context, and that it holds promise for students regarding the goals of these content areas, as well as broader literacy goals. I anticipated that some aspects of the approach would travel better than others, and I set out to learn which and why.

I came to the world of history and social science education in the U.S. as a result of a long personal and professional journey, driven by the questions: how can I contribute to efforts to make schools in Mexico places for socially meaningful *and* academically sound learning for young people? What are powerful ways to frame and structure teaching and learning for this purpose?

My own experiences as a student were frustrating in these regards. I didn't feel like school was a space for me to authentically learn about my own identity or agency in society, or about the world beyond my upper-class urban circle, or to foster my curiosity or explore my questions – all things I keenly needed. Civics education felt moralizing and devoid of real meaning. History and geography felt like an exercise in memorization of facts alien to me. Only as an adult did I begin filling in the gaps through other experiences and studies. But I felt cheated.

My first job out of college entailed supporting middle schools and high schools created by Wixáritari Indigenous communities to provide their youth with relevant education close to home. Later on, as an educational researcher, I also worked with a range of K-9 public rural schools that fostered students' cultural competence and community agency in a variety of ways. I realized that school *could* play these roles in students' lives.

However, in these experiences, as well as in my own experiences as a teacher (despite my best intentions, and despite the guidance of general pedagogies, critical pedagogies, and alternative models), I felt like there was something missing, but I couldn't put my finger on it.

When I first came across the concept of pedagogical content knowledge (Shulman, 1987), I thought it could take me in the right direction. The idea that teachers in each content area need specialized knowledge about their content and how to teach it, seemed like a simple and necessary, yet overlooked premise. Learning that education experts had been building on this premise for decades led me to investigate further. I discovered there were such things as specific pedagogies, as well as programs of research, curriculum development, and teacher education in each content area, where I could learn about powerful ways to teach and work with teachers. I came to my PhD program in the US with these purposes.

Once in the US, I had the chance to observe inquiry-based social studies classrooms in action, even before learning the theory behind them. Straight away, these classes struck me as worthwhile for students to experience in a way that I hadn't encountered before. Students were actively engaging with content that was both socially and academically meaningful.

Throughout my program, I learned ways to frame historical and social content, as well as pedagogies that allowed for such engagement. I also learned that my academic background in social sciences, which used to seem disconnected from my work in education, could come to

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inform it, since inquiry and disciplinary literacy approaches draw on the epistemologies, theories, questions, texts, and dynamic findings of such disciplines.

Despite the differences in context, curriculum, and intellectual traditions informing education work in the US, I had a strong suspicion that I would be able to draw from the robust US and international theoretical and practical corpus around history and social studies inquiry for my work in Mexico in ways that would be relevant for many Mexican students and educators.

One of the differences between the US context and the Mexican context is that, in the latter, there is no construct of "social studies" as a school subject that includes geography, civics, and economics (with history sometimes included, and sometimes listed separately). Instead, history, geography, civic education, and sometimes others like economics and sociology in high school, are usually taught separately and not conceptualized as a set (Plá & Ross, 2022). In this dissertation I will refer to "history and social sciences," and not "social studies" to acknowledge this difference. The expression is still a bit deceptive about the situation in Mexico, since it implies a unitary concept, but I use it deliberately, with the underlying assumption that Mexican education could benefit from more scholarly attention to, and joint conceptualization of these inter-related school subjects.

Potential Relevance of Inquiry and Disciplinary Literacy for Reform-Oriented History and Social Science Education in Mexico

I set out to learn more about the fields of history and social science education in Mexico to further ground my hypothesis that an inquiry and disciplinary literacy approach could be relevant. I started getting involved with Mexican history educators and researchers through the Network of Specialists in Teaching, Communication, and Research in History Education (REDDIEH, by its Spanish acronym), and getting acquainted with seminal works as well as new

research in Mexico in this field. I came to realize that there are Mexican educators who are pushing history education to have disciplinary integrity and to better serve a range of social aims.

As in many countries around the world, history education in Mexico has been a tool to promote national identity, national unity, nationalism, and the official version of history, starting in the late nineteenth century (Bahena, 2015; Vázquez, 1975). Recent studies suggest that these goals of history education are still present in classrooms and still constitute central takeaways for young people (Bahena, 2015; Plá, 2014). Teaching these histories and their accompanying values often goes hand-in-hand with a pedagogy of information transmission, memorization and repetition, in which different pieces of content are disconnected from each other and from students' lives, and heavily regulated by the civic calendar (Casal, 2011; Díaz-Barriga et al., 2008; Huerta & Gilbert, 2017). These low-level, factual approaches don't tend to foster abstract or disciplinary thinking, or students' own voice or interpretation. There has been a push in recent decades in Mexico to change this.

Díaz Barriga (1993, 1998), one of the central figures in this push, draws from Spanish authors like Carretero, Pozo and Asensio (1989) to argue that history instruction should not focus on the memorization of dates, names, places, or isolated facts; or on summarizing or copying definitions and information from books. Instead, it should develop intellectual structures informed by social science disciplines and concepts to help students understand the present, its social dimensions and multiple perspectives, and think about the content in meaningful and contextual ways. For this, Díaz Barriga recommended that students engage in collaborative work and write essays that consider issues from multiple perspectives. In an influential piece (1998), she adopted a constructivist and disciplinary stance to suggest that history education should help students develop concepts of historical time, empathy among historical actors, relativistic

thinking, historical explanation and causality, and critical thinking. Taking up authors like Ashby and Lee (1987), Brophy (2013), Carretero (1996), Coll (1994) and Pozo (1985), she suggested that such conceptual learning could be accomplished through reading, analyzing, and critically evaluating historical sources.

In addition, contemporary history education scholars and educators in Mexico promote diverse social aims of history education, such as transcending nationalistic narratives (Bahena, 2015; Díaz-Barriga et al., 2008; Magaña, 2019; Plá, 2014; Plá, 2019; Vázquez, 1975; Young, 2010) and fostering a focus on local history, patrimony, identity, memory, historical consciousness, and civic agency (Arteaga & Camargo, 2014; Díaz-Barriga et al., 2008; Hernández, 2021; Latapí, 2020; Medina, 2021; Molina et al., 2014; Plá, 2017; Plá & Ross, 2022; Rodríguez, 2013; Salazar, 2006).

Some of these disciplinary and social orientations have been taken up in the design of the national teacher preparation curriculum (Arteaga & Camargo, 2014), as well as in the new high school curriculum that the federal government is attempting to roll out (Secretaría de Educación Pública, n/d). Some teacher preparation institutions – such as the *Centro de Actualización del Magisterio* in Zacatecas (Domínguez & Muñoz, 2019 and the *Escuela Normal Superior de México* in Mexico City, with its Historical Education Model (Mora & Ortiz, 2016) have been proactive in enriching and revamping their programs in these directions as well. There have also been documented small-scale experiences in classrooms to promote students' disciplinary thinking and work with primary and secondary sources, often with a historical consciousness component (for instance: Arteaga & Islas, 2019; Camargo & Valadez, 2017; Flamenco, 2017; Lima & Ribó, 2018; Martínez, 2019; Méndez & Tirado, 2016). These documented interventions demonstrate a variety of ways in which reform orientations in history education can be taken up

in Mexican classrooms, with local curriculum and/or locally relevant issues. However, with some exceptions outside mainstream public education (e.g., Martínez, 2019), none of these cases draw on an inquiry approach.

Could the research-based corpus of inquiry be a valuable contribution for reform-minded history and social science educators in Mexico? Could this approach offer an overarching frame that tends both to the disciplinary framing of historical and social issues, but also to concrete pedagogical tools to structure and teach lessons? Could it be an approach flexible enough to help operationalize a variety of lasting goals in history and social science education, both academically and socially oriented? Could it also be flexible enough to help address a variety of contents, whether regularly covered in mainstream curricula or not? Thus, would it be sensible to build materials, research, teacher education, etc. around this approach long-term, knowing it can remain relevant despite periodically changing national curriculum guidelines, as well as particularities across different social contexts and school subsystems in Mexico?

I believe the answer to all these questions is at least partially affirmative, but they can only be answered (and nuanced) by on-the-ground experimentation. This dissertation project makes an initial contribution by exploring the potential of an *inquiry and disciplinary literacy* approach in one context. Disciplinary literacy refers to the specific ways of thinking, reading, writing, and communicating that are involved in understanding and knowledge construction in distinct disciplinary fields (e.g., history, social sciences, mathematics, biology).

The curriculum I most directly drew on for this project, *Read.Inquire.Write.*, invites students to engage in disciplinary literacy through history and social science inquiry by organizing lessons around debatable, open-ended questions that are authentic to what disciplinary experts (and/or non-expert stakeholders) ask themselves. In the lessons, students

make connections between their own knowledge and experiences and expand their substantive, conceptual and disciplinary knowledge in relation to the inquiry at hand; they consider a variety of authentic sources (e.g.., primary sources, historians' and social scientists' interpretations, journalistic reporting, and stakeholders' perspectives, including ones routinely silenced in dominant narratives); and they write arguments in response to the inquiry questions. These lessons have embedded tools and supports for students' disciplinary reading, discussion, and writing. To my knowledge, disciplinary literacy in history and social science education has been seldom explored in Mexico. Exceptions include Plá (2005), who investigated the role of his high school students' writing in their development of historical thinking, and Lima and Ribó (2018), who supported 5th grade students in reading sources historically before creating an imagined newspaper page from the Porfiriato era.

Additionally, an inquiry and disciplinary literacy approach could address another set of concerns beyond history and social science education, related to youths' literacy education. Engaging with relevant historical and social issues, authentic and varied sources, and authentic literacy practices could not only elevate Mexican youths' learning in these subject areas, but also honor and expand on their rich literacy worlds (CONACULTA, 2015; IBBY, 2015) and create instructional opportunities for them to develop general literacy skills - both foundational and advanced - which are often absent after the elementary level (Castro & Sánchez, 2013; Flores et al., 2010; Flores et al., 2015; Gayol & Rosas, 2020; Hernández & Rodríguez, 2018; López-Bonilla, 2013; Madero & Gómez, 2013; Peredo, 2007, 2011; Peredo et al., 2004.)

As part of its literature review and introductory sections, the first manuscript, "Exploring an Inquiry and Disciplinary Literacy Approach to History and Social Science Education in a Mexican High School," goes into more detail about the origins and features of this approach, and

the ways in which it could potentially address Mexican educators' concerns and aspirations, including increasing the disciplinary integrity of history and social science education; tending to various social, cultural, critical, and civic aims of these subject areas; and fostering students' general literacy skills.

Overall Project and Overview of Dissertation Chapters

I chose Design-Based Research (Design-Based Research Collective, 2003; Penuel et al., 2011) as an overarching methodological framework because it would allow me and push me to foreground collaboration with teachers and iterative trials in real classrooms as I investigated how the theories and design principles behind an inquiry and disciplinary literacy approach would "travel" to this new context. Despite the hypothetical relevance and viability, in-context design and implementation could go very differently than I envisioned. A lot could be lost in translation, unexpected logistics might complicate the work (especially during the Covid-19 pandemic), other curriculum priorities could rise to the surface, existing teaching practices could interact in unexpected ways, and I wasn't sure how students would react.

I began looking for a teacher partner at a Mexican public middle or high school who would be willing to do this study with me. I was lucky enough to get connected with a school site where a group of around fifteen teachers were interested in infusing literacy into different content areas. This group of teachers was part of a community of practice facilitated by the organization Letras para Volar, which promotes innovative literacy practices in various contexts. Letras para Volar posits that literacy education should align with students' cultural, contextual, and multi-modal literacy worlds, and help position them as community members and agents who contribute to more just societies (Smagorinsky, Gayol & Rosas, 2020). I thought that the

connections between this approach to literacy, and the disciplinary literacy approach I was drawing from, could be the basis for a fruitful collaboration.

In early February, 2021, I was invited to join a Zoom meeting to pitch my project to this group of teachers from different subject areas. Many showed interest, but ultimately four of them signed up, showed up at our first meeting, and stayed to participate throughout the project. Three of these teachers were part of the school's social science department, one of them teaching a *Democracy and National Sovereignty* course, and two of them, a *Global Citizenship* course. Both courses feature historical as well as contemporary issues. The fourth teacher taught writing. Inquiry and disciplinary literacy approaches were entirely new to these teachers, both in theory and in practice; but, as previously mentioned, they wanted to explore the integration of literacy in beyond language courses, and they were excited about participating in research. The teachers and I worked with their interests, curriculum, practices, and time constraints. All four persisted throughout the preparation stage (fully remote, with me still in the U.S.) and the implementation stage (with me in Mexico).

When I arrived in Mexico in August to begin the implementation stage, the teachers and I met face-to-face for the first time, and we toured the school and the locality. Although I remained in Mexico for the rest of the semester, subsequent meetings and the implementation of lessons were remote until late-November due to Covid-19. I observed these lessons via Google Classroom. After that, we switched back to in-person because health guidelines allowed it. I observed (and sometimes participated in) numerous in-person classes at the school for our last round of lessons. Throughout both the preparation and implementation stages, the teachers and I maintained fluid communication.

The resulting body of data (from documenting iterative design and reflection, classroom implementation, and student work) was abundant. Analysis could have gone in many directions. I eventually decided on two studies. The first one, "Exploring Teachers' Uptake of an Inquiry and Disciplinary Literacy Approach to History and Social Science Education in a Mexican High School" - represented in Chapter 2 - focuses on teachers' uptake of the design principles throughout the preparation and implementation phases and provides a global overview of the project. It draws from video, notes, and artifacts from our meetings and classroom observations. It is intended for a Mexican audience who is unfamiliar with inquiry, but who could be intrigued by it. The target journals for this manuscript are the *Revista Mexicana de Investigación Educativa* or *Perfiles Educativos*.

Chapter 3 presents the second study, "Source Evaluation in History and Social Sciences in a Mexican High School: A Case Study of Beginners' Engagement." This study homes in on one aspect of the disciplinary literacy embedded in the lessons – source evaluation – and how students took it up. Instruction on source evaluation was minimal compared to what I intended. However, the qualitative data on students' emergent or novice work on this practice constitutes an interesting addition to the literature, which currently provides few details about novices' source evaluation in the context of historical and contemporary social inquiries. In addition, this analysis of novice attempts at source evaluation by students in one Mexican high school could prove to be a useful foundation for future work. *Curriculum Inquiry* is the target journal for this second paper.

My hope is that the papers in this dissertation will be a tool for me to communicate with educators and researchers in Mexico and other countries, as well as a tool to build collaborations with them for research, curriculum development, and teacher preparation projects around history

and social science inquiry and disciplinary literacy. In Chapter 4, I pull together concluding

reflections on this dissertation and its implications for future work.

Researcher's Role and Positionality

In this project I took on the roles of researcher, curriculum designer, and teacher

preparation facilitator, with a measure of expertise in the pedagogical approaches I wanted to try

out with the teachers' help (not having taught young people with these approaches myself, or

being in a position to do so at the moment). At the same time, these roles were in a way

preliminary, because I was taking on my first independent project of this kind, and I was doing it

the hopes of fulfilling a requirement for my degree. Moreover, I was still learning the theory and

practice of what I was doing *as I did it*. Thus, my own understandings continued to evolve

throughout the project, including the analysis and writing stages after the field component with

the teachers and students was completed. In particular, the concept of disciplinary literacy (and

its implications for my study) was one that I only understood and defined more clearly in later

stages of the analysis.

Whatever the degree of expertise I brought as a researcher, a Design-Based Research

methodology called for it to be put into dialogue with the teachers' knowledge of their own

practice, subject matter, students, and context; and for us to negotiate our respective interests and

priorities in this project (Anderson & Shattuck, 2012; Design-Based Research Collective, 2003;

Penuel et al., 2011; Reimann, 2010). I shared these ideas with the teachers from the beginning,

and there were many moments in which our respective roles had to be redefined and

renegotiated. For instance, I was initially hoping for a more collaborative design of the lessons,

but it eventually became clear that I would need to take on a larger role on this front, given the

teachers' busy schedules, as well as the fact that I was it was helpful for them to see some of the

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design principles embodied in concrete materials and lessons. I had to devise other ways to elicit and incorporate their input. The teachers' views were integral throughout the preparation and implementation stages, and are especially manifest in the first manuscript. In contrast, the second manuscript is based on my own analysis of students' work after I had wrapped up work with the teachers. Member checking with the teachers for both papers is still pending, as is exploring the possibility of having them as co-authors of forthcoming manuscripts.

Despite the twists and turns of the project, and the complexities of my role, I felt at home working with Mexican teachers (especially after navigating contexts new and foreign to me for the five years of my PhD in the US); and it is my aspiration to continue doing so in my career for the foreseeable future.

Chapter 2 Exploring Teachers' Uptake of an Inquiry and Disciplinary Literacy Approach to History and Social Science Education in a Mexican High School

Introduction

Courses in history and the social sciences can be spaces for young people to engage with important issues around them from perspectives they probably wouldn't encounter otherwise. Many educators and researchers in Mexico agree that these subject areas should transcend transmissional approaches and nationalistic narratives: they should feature relevant content, engaging lessons, and active sense-making by students (Casal, 2011; Díaz-Barriga et al., 2008; Huerta & Gilbert, 2017). Some also argue that these subject areas should be infused with disciplinary ways of knowing, beyond coverage of topical content (Arteaga & Camargo, 2014; Díaz-Barriga, 1993, 1998; Prats et al., 2011; Salazar, 2006).

Inquiry and disciplinary literacy are well-developed, research-based, versatile instructional approaches that can potentially help address these aspirations. In this study, I teamed up with teachers in one Mexican high school to design and implement lessons with these approaches in two high school courses: a *Democracy and National Sovereignty* course and a *Global Citizenship* course, both featuring historical as well as contemporary issues. I used data from the meetings with the teachers and from their teaching to investigate how they took up the pedagogical approaches and the design principles behind the lessons. I draw implications about the potential of an inquiry and disciplinary literacy approach in Mexico.

Literature Review

Historical and Social Sciences Inquiry: An Ongoing Paradigm Shift

In the context of history and social science education, inquiry can be defined as an approach in which students learn by asking questions, investigating various sources and perspectives, and formulating and communicating conclusions to orient thought and action regarding historical and social issues. This approach offers an alternative to traditional ones focused on the transmission of information, in which students are positioned mostly as passive recipients. Inquiry is a means for teachers and students to address historical and social content in relevant ways, drawing from authentic materials (testimonies, documents, experts' input, etc.). At the same time, it promotes learning beyond the specific information under study by drawing on concepts and practices from diverse disciplines, which can help students make sense of the world more broadly. Inquiry can draw from history, sociology, anthropology, and political science, as well as other, non-academic fields that also entail investigating the social world, such as journalism, activism, or public service. Inquiry as an approach to history and social sciences education is also distinctive in that, rather than presenting given historical or social narratives, interpretations, or values as absolute, it recognizes them as diverse, human-made, and contingent. Inquiry offers a pedagogical and epistemological frame to address diverse historical and social issues, whether they are part of a pre-established program of study or not.

Inquiry and disciplinary-oriented reform efforts date from the early and mid-twentieth century (Fallace, 2017), but the last few decades have seen a surge of robust development and implementation in many countries, and the momentum is ongoing. The editors to the 2020 *Palgrave Handbook of History and Social Studies Education* deem that an inquiry-oriented paradigm shift in K-12 and teacher preparation is underway internationally (Christou & Berg, 2020, p. 5). The *Handbook* provides examples from France, Zimbabwe, the Netherlands, South Africa, Australia, Switzerland, Canada, Sweden, Cyprus, Finland, Germany, and New Zealand.

In many of these chapters, authors consider how an inquiry and disciplinary orientation to history interacts with other locally relevant considerations, such as the challenging of national narratives, identity work, historical consciousness, and history in postcolonial contexts. The editors think that the field is in need of more "pedagogical experiments," in partnership with local teachers in different contexts, in order to contribute to a global dialogue. Numerous scholars and teacher educators in Mexico have advanced disciplinary orientations to history and social science education (Arteaga & Camargo, 2014; Díaz-Barriga, 1993, 1998; Domínguez & Muñoz, 2019; Mora & Ortiz, 2016; Prats et al., 2011; Salazar, 2006), but to my knowledge, few innovations or studies in Mexico have drawn from the body of work on inquiry. Exceptions include work in an International Baccalaureate (e.g., Martínez, 2019) and an American School (e.g., Gibson, 2018), outside mainstream public education.

Inquiry as a Versatile Approach

Although inquiry has distinctive principles and pedagogies, different strands of work have addressed a range of content areas and emphasized different objectives (i.e., disciplinary, civic, critical). In the U.S., the C3 Framework (National Council for the Social Studies, 2013) and the Inquiry Design Model (Grant, Swan, & Lee, 2017) attempt to bring together many of the different strands and provide a point of reference for the different disciplines grouped under social studies – History, Geography, Civics, and Economics – and make inquiry operational in different grade levels. The C3 Framework is structured along four dimensions: (1) developing questions and planning inquiries; (2) applying disciplinary concepts and tools (mainly from History, Geography, Civics, and Economics, but also other fields); (3) evaluating sources and using evidence; and (4) communicating conclusions and taking informed action. These four dimensions can also be understood as loosely sequential stages in inquiry lessons or units of

variable durations. The framework can be tailored to specific content and issues, and to emphasize a range of learning goals. For instance, some inquiries might be geared towards students learning to develop their own questions or look for their own sources; others might provide questions and sources beforehand, and instead focus on students evaluating and analyzing the given sources, or developing an action plan once they've reached conclusions.

Disciplinary Literacy

In this study, disciplinary literacy will be understood as a pedagogical approach in which young people learn by engaging with the ways of knowing and using language in different disciplinary fields. In this approach, disciplinary fields are not regarded as cumulations of information to be learned, but as human endeavors with distinctive ways of framing questions and phenomena and distinctive knowledge-generating practices, as well as distinctive uses of language. These language features include specialized vocabularies and ways of speaking, listening, reading, and writing, which reflect and make up knowledge in the field. Therefore, to detach school content from such features of the disciplines would be to limit and misrepresent it.

Moje (2015) argues that it is essential for youth to participate in approximations of disciplinary knowledge production so that they can understand, use, question, and critique this knowledge as citizens. These approximations are also essential for supporting "the development of new kinds of knowledge as people from a range of backgrounds and experiences gain access to these specialized domains" (Moje, 2015, p. 259). Moreover, a disciplinary literacy approach can support students' active and holistic engagement by positioning them to share in the kinds of questions, emotions, and motivations that drive the pursuits of specialists in different fields. In this sense, inquiry as a pedagogical approach is a natural match for disciplinary literacy.

An authentic involvement with the disciplines entails students' apprenticeship into the specialized genres, vocabularies, and ways of talking, reading, and writing within them. This allows for students to build knowledge in different subjects in contextualized, meaningful ways. At the same, their continued general literacy development beyond elementary grades necessitates exposure to and practice with different field-specific literacies, as such are the literacies at play in the real world beyond school. These literacies pose new challenges for students, and require that teachers place an explicit focus on the linguistic features in each field (Fang et al., 2014).

The implications of a disciplinary literacy approach are especially developed in the realm of history. Research on the ways historians construct knowledge, read, and write, predates the push for disciplinary literacy in education: it is rooted in an understanding of history as a methodological, knowledge-building discipline in which historians reconstruct the past through fragmentary, sometimes conflicting evidence (Collingwood, 1994). Thus, historians need to make sense of such evidence, and advance or question interpretations and arguments about the past. Moreover, historians publicly display these arguments and their grounding in evidence, thus engaging in a written dialogue with other historians' arguments and interpretations of the past (Hexter, 1971). Wineburg (1991) identified heuristics historians use for analyzing historical documents and developing interpretations: sourcing (considering the document's origin and purpose), contextualization (situating the document in its own historical context), and corroboration (making sense of how different documents coincide or differ). Greene (1993) found that, when historians write, they have a rich mental representation of the problem (in their case, building interpretations and arguments with certain emphases, with certain significance and audiences in mind), for which they leverage rhetorical strategies along with a mastery of a body of factual knowledge.

These particular ways of thinking are situated by other authors in larger frameworks of historical thinking and understanding. Work in Great Britain has been foundational in establishing our understanding of key concepts students learn in a disciplinary inquiry approach to history (e.g., Lee, 2004). Building on this work, Seixas and Morton (2013) proposed 'six big historical thinking concepts' to become the focus in Canadian schools: determining what is *historically significant*, treating history as an interpretative discipline based on *evidence*, making sense of the past through *cause and consequences* and through *continuity and change*, *historical perspective* to better understand people from the past, and tending to the *ethical dimensions* of history. In the Netherlands, van Drie and van Boxtel (2008) offer a comparable framework for historical reasoning with some variation.

These and other insights about history have both guided and benefited from research on how students can learn to construct, critique, and communicate historical understanding (Bain, 2005; Greene, 1993; Monte-Sano, 2010; Wineburg, 1991; Young & Leinhardt, 1998), as well as the distinctive linguistic features that students are faced with in historical discourse, and how teachers can support them (Schleppegrell et al., 2012).

Inquiry and Disciplinary Literacy Curriculum Models

Researchers have developed and tested history and social science inquiry materials to support students' disciplinary literacy learning, such as *Reading Like a Historian* (Wineburg et al., 2012), organized around historical questions in American history, accompanied with historical sources, with suggested historical thinking concepts and teaching strategies. One important study (Reisman 2012a, 2012b) explored the implementation of *Reading Like a Historian* lessons on a large-scale, which served to demonstrate the structure and feasibility of such lessons in urban U.S. public schools, as well as the learning outcomes that are possible for

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secondary students. It was a quasi-experimental study with 11th grade US History students. In the treatment condition, their teachers taught them 40-50 Document-Based Lessons over the course of six months, each with the same lesson segments: 1) background knowledge, 2) central historical question, 3) instruction and practice on heuristics to work with historical documents (sourcing, contextualization, corroboration, and close reading) and 4) discussion. Significant effects were found for students' historical thinking (in terms of their use of the strategies), ability to transfer historical thinking strategies to contemporary issues, mastery of factual knowledge, and growth in general reading comprehension.

Subsequent studies have further explored the pedagogies of an inquiry and disciplinary literacy approach in history, as well as its feasibility in classrooms, and the potential learning outcomes for students, including argument writing. In a three-year study in the U.S. (De La Paz et al., 2014; De La Paz et al., 2017; Monte-Sano et al., 2014), researchers designed and tested a curriculum focused on reading and analyzing historical sources and writing historical arguments with a cognitive apprenticeship approach, in which teachers demonstrate and explain the use of strategies, and then have students practice with their guidance and feedback, gradually removing scaffolds as students become more autonomous. The curriculum consisted of six three-day units spread throughout each year, in which students investigated a controversial historical question: they learned background about the topics, read and annotated sources, discussed together briefly, and planned and wrote individual essays in response to the question. To differing degrees, teachers offered modeling of the disciplinary thinking strategies made visible to students, and guidance and feedback as students themselves worked. The curriculum included scaffolds to support disciplinary reading and writing. Supports decreased progressively as students increased their skills and became more autonomous. Using pre and post assessments, the researchers found

moderate to large effects in historical writing, overall writing quality, and writing length for culturally and academically diverse students.

These projects were predecessors to the *Read.Inquire.Write.* curriculum, which stemmed from a partnership between researchers Monte-Sano and Schleppegrell and a public school in the U.S.. They developed a 6th, 7th, and 8th grade World Geography, Ancient World History, and US History curriculum which featured four 5-day inquiry units each year, called "investigations," each revolving around a central question and text set. Each investigation follows a structure and sequence that includes making connections to the focus of the inquiry and extending incoming knowledge on Day 1; reading and analyzing sources on Days 2-3; thinking across sources, constructing plausible arguments, and planning arguments on Day 4; and finishing planning, composing, reflecting, and revising on Day 5. Six disciplinary literacy tools support students' work throughout this inquiry and writing process (e.g., a reading guide to support analysis of sources, a graphic organizer to support essay planning), along with teachers' modeling of disciplinary practices, thinking, and writing (Alston et al., 2021). Frequent, inclusive discussion in small student groups and in whole group with the teacher was key (Monte-Sano et al., 2021). The curriculum has supported significant gains in students' disciplinary thinking and writing, especially for students who read at or below grade level (Monte-Sano et al., 2019). The lessons in the present study are modeled after the *Read.Inquire.Write.* investigations, which I'm deeply familiar with because I have been a graduate student research assistant in curriculum design, research, and professional development projects featuring the curriculum for the past five years.

Potential of an Inquiry and Disciplinary Literacy Approach in Mexico

This study does not seek to merely implement an inquiry and disciplinary literacy in Mexico. Rather, it seeks to explore if and how this approach (or particular aspects of this approach) could be relevant and feasible given Mexican educators' existing aspirations, contexts, and practices. There are different categories of broad aspirations that an inquiry and disciplinary literacy approach could be responsive to.

On one level, this approach could offer tools to operationalize **disciplinary orientations** that have been put forth by scholars, and that have made their way to the history teacher education curriculum (Arteaga & Camargo, 2014; Bello, 2021; Díaz-Barriga 1993; 1998; Díaz-Barriga et al, 2008; Juárez, 2019; Portillo, 2021; Méndez & Tirado, 2016; Lima & Ribó, 2018).

At the same time, an inquiry framework could serve to address **social aims of history and social science education**. For instance, it could aid in transcending a focus on nationalistic narratives (Bahena, 2015; Díaz-Barriga et al., 2008; Magaña, 2019; Plá, 2014; Plá, 2019; Vázquez, 1975; Young, 2010) by considering them in a contextualized way alongside silenced perspectives and emerging interpretations. It could also inform work with local history, patrimony, identity, memory, historical consciousness, and civic agency (Arteaga & Camargo, 2014; Díaz-Barriga et al., 2008; Hernández, 2021; Latapí, 2020; Medina, 2021; Molina et al., 2014; Plá, 2017; Plá & Ross, 2022; Rodríguez, 2013; Salazar, 2006).

An inquiry approach to disciplinary literacy also has the potential to address concerns and aspirations related to students' **general literacy**, which go beyond history and social sciences education. Elevating academic literacy in all subject areas has been deemed by some to be a necessity in Mexico and Latin America (Carlino, 2013), along with the need to provide adolescents with opportunities to develop both foundational (i.e., reading fluency and comprehension) and advanced literacy skills (i.e., academic writing; evaluating and

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corroborating across multiple texts) – opportunities that have been systematically denied to broad

sectors of Mexican and Latin American youth (Castro & Sánchez, 2013; Flores et al., 2010;

Flores et al., 2015; Gayol & Rosas, 2020; Hernández & Rodríguez, 2018; López-Bonilla, 2013;

Madero & Gómez, 2013; Peredo, 2007, 2011; Peredo et al., 2004). Contrary to common belief,

disciplinary literacy in history and social sciences is not out of reach for youth with lower

literacy skills. Rather, it creates authentic contexts to develop foundational and advanced general

literacy skills, alongside disciplinary ones, provided the proper support.

Finally, an inquiry approach to disciplinary literacy might be acceptable and appealing to

Mexican educators to the extent to which they espouse constructivist pedagogical principles,

such as honoring and fostering students as the active builders of their own understandings. A lot

of the recent research on social studies and inquiry operates under the influence of social

constructivism, with an understanding that knowledge construction and meaning making are

both individually and socially active processes (van Hover & Hicks, 2017, p. 274). Per this

literature, teaching principles that help make this stance operational include the use of authentic

learning tasks; providing opportunities to process information into deeper conceptual

understandings; constructing and extending a learner's prior knowledge; the use of strategy

instruction, tools, and scaffolds to support complex learning; engaging in social mediation (in the

form of collaboration and conversation among learners) to articulate ideas; and using reflection

and metacognition to become self-regulated learners.

Using Internationally Developed Principles and Literature to Design Lessons

Inquiry-based instructional approaches to disciplinary literacy such as the ones described

above (De La Paz et al., 2014; De La Paz et al., 2017; Monte-Sano et al., 2014; Reisman 2012a,

Reisman 2012b; Wineburg et al., 2012) are grounded in - and contribute to - a body of literature

on a range of related pedagogical issues. *Read.Inquire.Write.* - which models the specific approach this study draws from - has explicit research-based principles that guide its curriculum design. I took those principles (Monte-Sano et al., 2019) and adjusted them to reflect my understanding and theoretical grounding, as well as the priorities of the teachers as stakeholders in the study (see Table 1).

My main addition was Principle 2, "Tend to cultural relevance and frame history as a social practice/tool." The rationale for this addition was that many Mexican educators, including the teachers in this study, highly value history's role in collective memory, identity building, and developing a sense of historical agency; and they may be more familiar with and/or more highly value these goals than apprenticing students with history as an academic discipline. Moreover, the teachers were interested in *critical* literacy as defined by Cassany (2006), which entails leveraging the cultural and political dimensions of written language and other media and using them to critique injustice and promote justice. Cultural and critical aims of education are influentially conceptualized in the U.S. under Ladson-Billing's (2009) theory of Culturally Relevant Pedagogy (1995, 2014), which includes the tenets of fostering students' cultural competence and critical consciousness along with their academic success. Critical pedagogy (Freire, 1979), which influenced Ladson-Billings, has been deeply embedded in certain strands of Latin American educational thought for decades. Cultural competence has also been a central theme in both official and alternative strands of work in Mexican education. In contrast, the tenet of academic success has not traditionally been conceptualized alongside cultural competence and criticality in Mexico, as Ladson-Billings did when outlining the tenets of Culturally Relevant Pedagogy. This poses a challenge for Mexican educators who view these realms as separate or

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even opposing. This study leans into that challenge by testing an academically rigorous, discipline-oriented approach that simultaneously aspires to be culturally relevant.

In Table 2.1 below, the first column shows the design principles for an inquiry approach to teaching disciplinary literacy used to guide work with the school partners, along with the grounding literature; the second column specifies how the principles could be embodied in the lessons.

Table 2.1. Design principles and embodied lesson features

Design Principles	Embodied lesson features
1. Frame history as inquiry. Show students that, rather than a series of facts established once and for all (conveyed in authoritative sources for them to memorize or take as absolute or fixed truth), history as a discipline is a practice of inquiry, interpretation and argumentation about the past, from the available evidence (secondary and primary sources), and from particular questions, perspectives, and goals; a practice that students themselves can partake in. (De La Paz, 2005; Monte-Sano, 2008; Monte-Sano & Allen, 2019; Reisman, 2012a, 2012b; Wineburg, 2001). Additionally, sources with "visible authors" promote adolescents' contextualized reading (Paxton, 2002). The language and length of sources can be adapted so that students can access them (Wineburg & Martin, 2009).	• Structure lesson cycles as "investigations" around debatable, authentic central questions. • Provide background on why and how historians have tackled such questions. • Offer students a set of secondary and primary sources that represent diverse perspectives on the issue and support a range of plausible responses to the central question, and are adapted for accessibility.

2. Tend to cultural relevance and frame history as a social practice/tool. Investigate students' context, cultures, and interests (including forms of literacy and youth culture) to inform investigation design (Ladson-Billings, 2009; Paris & Alim, 2014; Smagorinsky et al., 2020). Frame historical writing tasks as arguments for an authentic audience with an authentic purpose (Goldman et al., 2016; Graham & Perin, 2007; Monte-Sano & De La Paz, 2012; Monte-Sano & Allen, 2019; Troia, 2013). Show students that history is not just an academic discipline, but a social practice/tool in which non-historians partake – in different ways an for different reasons- , and which can in turn interact with disciplinary history (Rüsen, 2006); and that history has ethical dimensions (Seixas & Morton, 2013). Consider critical literacy aims (Cassany, 2006). Consider social aims of history and social science education in Mexico and Latin America (Arteaga & Camargo, 2014; Bahena, 2015; Díaz-Barriga et al., 2008; Hernández, 2021; Latapí, 2020; Magaña, 2019; Medina, 2021; Molina et al., 2014; Plá, 2014; Plá, 2017; Plá, 2019; Plá & Ross, 2022; Rodríguez, 2013; Salazar, 2006; Vázquez, 1975; Young, 2010).

- Investigate and leverage students' context, cultures, and interests to inform the selection of the investigation's topic, its framing, the source selection, the argument writing task, and/or the teaching and learning activities.
- Help students examine and reflect on how different social actors (in the community, in the media, in politics, in culture…) engage with the historical issues featured in the lesson.

3. Develop connections and background knowledge. In preparation for inquiry, promote students' connections between the new historical content and their prior knowledge, their lives, identities, and relevant societal issues (Epstein, 2010; Goldberg et al., 2008; Gutiérrez, 2008; Reisman, 2012b). Promote students' development of background knowledge on the particular topic (Chambliss & Murphy, 2002; Reisman, 2012b). Promote conceptual framings to meaningfully situate the historical phenomena under study (Bain, 2012; Shelmilt, 2009).

- Devote the first session(s) of the investigation to developing students' connections and activating and extending their background knowledge about the topic under investigation (may continue in subsequent stages). This can be done through framing explanations and discussions, short informational videos and readings, idea and question generation, analyzing and building timelines, maps and concept maps, etcetera.

4. Use a cognitive apprenticeship approach.
History has discipline-specific literacy features and demands. Strategies and tools for reading, analyzing, annotating, reasoning across sources, and writing arguments help students make sense of them and construct arguments from multiple sources. Students learn these strategies through modeling and explicit instruction, guided practice, and autonomous practice. (Alston et al., 2021; Kramer-Dahl et al. 2007; Monte-Sano, 2008, 2011; Reisman, 2012b; Shanahan & Shanahan, 2015; Schleppegrell, 2004; Wineburg & Martin, 2009).

- Subsequent sessions of the investigation are devoted to source analysis and development of arguments. With the first few sources, teachers teach, model, and guide students to use disciplinary strategies and tools to read, analyze, annotate, and use the sources to develop responses to the central question; students gradually practice more autonomously with subsequent sources.

5. Foster and facilitate discussion. Regular small group and whole group discussions around the sources and central questions throughout the inquiry process promote students' sense-making, idea-generation, and use of the language and concepts involved (Applebee et al., 2003; Bunch, 2013; Reisman et al., 2018; Kramer-Dahl et al., 2007; Monte-Sano, 2011; Monte-Sano et al., 2021; Nystrand et al., 1998).

- Throughout the lesson, students talk in pairs, small groups, and in whole group about the content and the disciplinary and literacy practices they're working on. This supports students' sensemaking, enriches their thinking, and builds collective knowledge and resources to draw on when writing.

6. Use a process approach to writing. Use instructional arrangements that center a writing process focusing on meaning (not form) and process (not just the final product), in which students learn about the genre they're writing and learn strategies to plan, draft, and revise their compositions. Students learn from their teachers, from models, and from each other as they work together, practice, and get feedback through the process (De La Paz et al., 2017; De La Paz & Felton, 2010; Graham & Harris, 2013; Graham & Perin, 2007; Monte-Sano, 2008; Troia, 2013).

- After students read and corroborate sources, they plan and draft their potential arguments, sharing their evidence and reasoning.
- Teachers present and model strategies, share models of writing, and provide graphic organizers and language students could use to compose their texts.
- Students stop often along the way to share progress and get feedback from peers and teachers.

7. Provide differentiated literacy instruction/supports. Different groups of adolescents, and different adolescents within a group may be at very different places regarding disciplinary and general literacy. Many can benefit from embedded supports for accessing the content and for developing foundational and general literacy skills, along with disciplinary literacy skills (De La Paz et al., 2017; Flores et al., 2015; Peredo, 2011).

- This could include video, audio, and visual materials so that students have non-textual points of entry; sources adapted for reading accessibility; instruction and practice with foundational reading and writing skills, etcetera.

These principles are key in explaining the design and effectiveness of instructional features in models like *Read.Inquire.Write.* for supporting disciplinary literacy. They served as an anchor point connecting a broader body of work to the "pedagogical experiment" in this study. Originally the study was set out to focus on History. Social Sciences was a later addition, since the teachers' courses also had contemporary topics they decided to use as thematic foci for the lessons. *Read.Inquire.Write.* investigations also include both historical and social topics, so they offered models for addressing both.

Teachers' Uptake of Inquiry and Disciplinary Literacy

Investigating how teachers take up inquiry and disciplinary literacy approaches is a key starting point in exploring the potential and feasibility of these approaches in a new context. Inquiry and disciplinary literacy often represent a shift from teachers' more traditional experiences with history and social sciences, whether in their prior teaching or in their own schooling, which can make their uptake challenging. Researchers have identified particular areas of challenge, in which teachers can improve over time through preparation and practice.

The notion of inquiry itself can be something teachers develop. Crocco and Marino (2017) administered a pre and posttest to pre-service teachers before and after a social studies methods course. In the pretest, their notions of inquiry were present but incipient (i.e., "learning through student questioning of content", p. 5). The course focused on inquiry concepts from the C3 Framework (the framework to support inquiry learning in history, civics, geography and economics in K-12, described earlier), and featured diverse inquiry activities centering local history and geography. After the course, the pre-service teachers had enriched their notions of inquiry; for instance, stating that "Inquiry learning is when students discover for themselves what

it is to be learning by investigation sources and making their own conclusions" (p. 6), even though no specific definitions had been provided.

Thacker and Friedman (2017) also investigated teachers' uptake of the C3 Framework, but with in-service teachers at a school district. A district-wide survey indicated that, even when teachers' conceptions were aligned with inquiry, their instructional practices didn't always follow suit, especially regarding the last stage of inquiry, *Communicating Conclusions and Taking Informed Action*, which most didn't report as part of their pedagogies. Then, the researchers worked with one elementary and two secondary teachers from this district who were interested and engaged in an inquiry approach, but hadn't received specific training. The teachers got professional development and support to design and implement inquiry-based modules in their classrooms. Finding, selecting, and adapting sources were salient challenges in the design phase, along with reported insufficient content knowledge to frame the inquiries. As for the implementation, the main challenge was the amount of time required for the inquiry lessons, compared to the available instructional time. Teachers' responses to this challenge included simplifying or cutting parts of students' work with sources (i.e., cutting annotation or writing from source analysis), cutting summative performance tasks and the "taking action" aspect of the framework, or resorting to traditional teaching to cover the content. Researchers also reported that teachers sometimes used supports excessively; that is, to the detriment of students doing their own thinking. Overall, teachers found that incorporating inquiry had been a worthwhile struggle in terms of the effective instruction it had yielded.

Teachers have distinct areas of potential challenge and development as they take up an inquiry and disciplinary literacy approaches in history and social sciences. One area that can be challenging for novice teachers is representing history in ways that allow for inquiry and

interpretation based on evidence (rather than as a set of facts) as they design and implement lessons (Monte-Sano & Budano, 2013; Monte-Sano & Cochran, 2009; Monte-Sano, 2011). This can include crafting inquiry questions, or having students practice source analysis and historical writing. Attending to students' disciplinary ideas is another key component of the work of teaching with inquiry that can be challenging initially (Monte-Sano & Budano, 2013; Monte-Sano et al., 2017). In a project where experienced teachers participated in professional development, they gradually learned to notice and comment on students' historical thinking in writing, notice key aspects of disciplinary writing, attend more to the quality of the writing than to its completion and form, and give students specific feedback on their writing (Monte-Sano et al., 2017).

Modeling to support students' disciplinary practices in the context of inquiry is also an important area for teacher learning. Reisman and Fogo (2016) studied one teacher's practice with the *Reading Like a Historian* curriculum. The teacher was enthusiastic about the materials, and enacted its major sections, including establishing background knowledge and engagement with multiple sources; however, his prompting and modeling of sourcing and corroboration was minimal, which the study attributed to the teacher's limited subject matter knowledge and pedagogical content knowledge. Alston and colleagues (2021) found that two teachers using the *Read.Inquire.Write.* curriculum (and who participated in ongoing PD) took up modeling by using tools, examples, demonstrations, explanations, and co-construction of models with students to support their learning of disciplinary writing strategies, as per a cognitive apprenticeship approach. Some aspects of this work appeared to be more easily attainable (like visually orienting students to a text, or having them note features of the text), while others were more complex, because they entailed dialogically orienting students to think about the processes in the

disciplinary strategies, making intertextual connections, or noting the transferability of the strategy to other contexts. The tools built into the curriculum were supportive for these teachers' modeling practices.

Facilitating discussion is another key teaching practice in inquiry and disciplinary literacy approaches, where students make sense of the issues and sources through talking about them. Reisman et al. (2018) specified the components of text-based, whole-group discussion facilitation in a framework for practice-based teacher preparation in history: a) engaging students as sense-makers (i.e., eliciting their thoughts in open-ended ways or probing for their rationales), b) orienting students to each other (helping them build on each others' thinking), c) orienting students to the texts as sources of historical knowledge and evidence for historical interpretations, d) orienting students to the interpretive practices of the discipline. Using this framework, teachers can examine examples of expert facilitation and develop their own skills as they practice.

In sum, there are key components that teachers may take up differently, struggle with, and improve in when trying inquiry and disciplinary literacy approaches: their notions of inquiry, their instructional time management and availability for inquiry, providing students with opportunities to engage with history and social sciences in interpretive and evidence-based ways, noticing and responding to students' disciplinary thinking, modeling disciplinary practices, and facilitating text-based discussions.

This Study

Inquiry and disciplinary literacy are educational approaches that view history and social sciences as investigative, meaning-meaning endeavors with distinctive ways of thinking, understanding, reading, writing, and communicating about historical and social issues; and

student learning entails actively taking part in such investigation and meaning making. Research and development on these approaches have produced design principles that can be used to inform the design of similarly-oriented materials.

An inquiry and disciplinary literacy approach has the potential of addressing a range of educational aspirations in Mexico, such as transcending transmissional and nationalistic approaches to history and social science, fostering students' active and meaningful learning, and infusing disciplinary integrity in these subject areas. Social aims of history and social science education – cultural, critical, civic - could potentially be addressed through this approach as well. Beyond history and social sciences, inquiry and disciplinary literacy could also help address general literacy education for Mexican youth. Research has shed light on some of the key aspects in teachers' uptake of this approach, some of which can represent a significant shift in teachers' practice.

In this study, I used a design-based research methodological framework to explore the potential of an inquiry and disciplinary literacy approach in Mexico, specifically regarding teachers' uptake. My research question is: How do Mexican high school teachers take up history and social science lessons that draw on internationally-developed design principles and literature for teaching through inquiry and disciplinary literacy? To investigate this, I partnered with history and social science teachers at one Mexican high school to develop a series of lessons drawing on international experience and literature.

Author's Positionality and Role

I came to this work as a Mexican educational researcher pursuing her PhD at a research university in the United States. The teachers in this study and I partnered over common interests: I wanted a school site where teachers would be willing to try out an inquiry and disciplinary

literacy approach to their history and social sciences courses; the teachers wanted to infuse literacy in their subject areas, and were eager to participate in research and learn a new approach in the process. As a Mexican with a background working with public schools in Mexico (and a plan to continue doing so), I felt quite fluent and invested in the context. During our year working together, I acted and was perceived as someone with expertise in the approach we were trying out (although only as a researcher and teacher educator – not as a teacher), and who fulfilled roles as a curriculum designer, a teacher preparation and reflection facilitator, and a researcher who documented the process. During the implementation of the lessons, I was mostly a silent observer, but occasionally intervened as a co-teacher.

Context, Participants, and Lessons

I partnered with four teachers at a large public high school in a municipality within a large urban area in Western Mexico. The locality is an administrative center and commercial hub in its area, but it is often described by dwellers and neighbors from other municipalities as having lower levels of income, security, development, and education as compared to other parts of the metropolis. According to official data, 37.5% of the population lives in "multidimensional poverty." The school in this study was established in 1989 as part of an emerging network of high schools run by the state's main public university. As compared to other schools in this network, students at this one are more concentrated on Levels II and III in the PLANEA Communication tests, with fewer students at the lowest or highest levels (Table 2.2 below). (PLANE is a low-stakes national assessment to gauge students' grade-level learning.):

Table 2.2 PLANEA communication test results

Percentage of students at each level	Level I (lowest)	Level II	Level III	Level IV (highest)
School in this study	23.5%	28.8%	39.2%	8.5%

Median for high school network   33%   19.2%   25.3%   22.5%

While the school offers several high school programs, the teachers in this study were part of the *General High School based in Competencies*, geared towards general academic preparation for higher studies. Table 2.3 shows the professional profiles and courses taught by the participating teachers:

Table 2.3 Teachers' profiles and courses regularly taught

Teacher	Professional profile	Courses regularly taught
Laura	Undergraduate degree in History; Masters in Human Development and Groups Facilitation; Lead of Social Studies at the school; Regularly organizes cultural events. Had been teaching for 21 years at the school, 27 total.	Cultural Roots (Regional History and Culture), 3rd semester National Sovereignty and Democracy (Mexican History), 4th semester Yoga
Elisa	Undergraduate degree in Public Accounting; Masters in Education; Lead of Language and Literature at the school; President and editor of the school's magazine. Had been teaching for 25 years at the school, 30 years total.	Analysis and Argumentation, 3rd semester Critique and Proposal, 4th semester Style and Editing, 5th semester
Carla	Undergraduate degree in History; Masters in Literacy Studies; Lead of the "Ask Science" and the Science Understanding Learning Unit. Had been teaching for 9 years at the school, 13 years total.	Citizenship Education, 4th semester Identity and Life Philosophy, 5th semester Global Citizenship, 5th semester Ethical Reflection, 6th semester
Miriam	Undergraduate in History; Masters in Social Sciences; School's Academic Coordinator. Had been teaching for 28 years at the school, 28 years total.	Global Citizenship, 5th semester

Laura, Carla, and Miriam had academic backgrounds in history and taught history and social science courses. Laura also had experience in historical research, and had published two books. Elisa was focused on language and literature courses and activities at the school. They

were all experienced teachers at the school and its community, enthusiastic about their work, and involved in special initiatives. However, their teaching workload and additional administrative and political tasks didn't leave much time for preparation or professional development. Although they were familiar with the school community - one of them being from it and residing in it - remote instruction during the pandemic meant that there was a large portion of their students they didn't get to build relationships with, or sometimes didn't even get to meet in person. Schools were closed in March of 2020, and any instruction since had been remote, including the preparation stage of this study during the first semester of 2021, as well as two-thirds of the implementation stage during the second semester of 2021. Teachers recognized that they hadn't been aware of many of their students' living and working conditions until they got glimpses of them through the cameras, which made them more understanding when students had difficulties attending or participating in remote sessions.

Our work on this project had two stages: preparation and implementation. In the preparation stage, the teachers and I met virtually on seven occasions from March-July 2021. I was in a different location during this time. We discussed the study design and logistics. I shared theoretical and pedagogical foundations of history and social science inquiry, along with relevant examples: We discussed history as a discipline that interprets the past building from incomplete evidence, as well as other second-order concepts such as historical relevance, continuity and change, and the ethical dimensions of history (Seixas & Morton, 2013). We discussed an inquiry approach, and I showed them how different content in their respective courses could be framed as inquiry through debatable, open-ended questions, sometimes relating to current issues. In order to get acquainted with an inquiry and disciplinary literacy instructional approach, teachers read and discussed an article in Spanish describing the *Read.Inquire.Write.* model (Monte-Sano

et al., 2019), and we examined some of the *Read.Inquire.Write.* materials. I asked the teachers to work with some of the sources as the students would, with me demonstrating and then asking them to continue, following a cognitive apprenticeship model. This helped acquaint teachers with source evaluation and analysis, and solidified their interest in incorporating these practices in our lessons. However, they decided to stop this activity early because they felt that, as teachers, they didn't need to do it themselves in order to get the gist of it or know how to teach it (thus, teachers' exposure to both the disciplinary practices and the cognitive apprenticeship model was limited). I also shared the design principles with the teachers during several of the sessions, and we discussed how these principles manifested in what we were doing each time.

The teachers reflected on how the concepts and materials we were reviewing related to their own practices and goals, especially regarding the integration of literacy, and critical literacy specifically. For instance, teachers thought that source evaluation would prompt students to "read behind the lines," as per critical literacy (Cassany, 2006); that is, noticing who was behind a text, and what ideologies it represented. Teachers also noted that working with sources would expose students to different types and formats of sources, including texts, paintings, and videos. They decided to conduct informal pilot lessons with their students (who they were working with virtually) to try out some of the ideas we had discussed, and they reported back to the group. Laura proposed a lesson with the inquiry question, *What were the economic, social, political, and cultural progresses and setbacks during the Porfiriato?* Miriam and Carla wanted to focus on racism, and proposed the question *Do human rights established in the constitution guarantee the absence of discrimination in Mexico?*

Teachers reported that the questions and multiple sources had generated interest and dialogue among students. At the same time, they pointed out that not all the students were

participating or doing quality work. Some of the teachers attributed this to students not being academically responsible or capable, while others argued that we needed to make the lessons and materials accessible and engaging for those students as well. Teachers also discussed how to accomplish this accessibility and engagement, especially remotely and with large groups. Their pilot trials also helped shape the focus of the full lessons I would design for the implementation stage.

For the implementation stage, we decided to pursue two separate series of lessons: one in the *Democracy and National Sovereignty* course in 4th semester with teachers Laura and Elisa, and one in the *Global Citizenship* course for 5th semester with teachers Carla and Miriam. Each pair of teachers determined the thematic foci for the lessons in their courses. I took our preparatory work and the pilot lessons into consideration in designing a first round of lessons for the fall of 2021. During the implementation phase, I met with each pair of teachers before each lesson to go over the proposed materials and make adjustments. We also debriefed after each lesson, and we met all together for a final reflection. Table 2.4 below shows which lessons took place over the semester. There were two lessons for *Democracy and National Sovereignty* (4th semester, two class sections), and three for *Global Citizenship* (5th semester, two class sections). I consulted with a historian of the conquest (Mario Enrique Fuente Cid) for the design of the Tenochtitlan lesson, and a human rights and migration expert (Montserrat Narro Ibargüengoitia) for the design of the migration lesson.

Table 2.4. Lessons

Subject, semester, section	Lesson 1	Lesson 2	Lesson 3

Democracy and National Sovereignty 4th semester	Inquiry question: What causes of the fall of Tenochtitlan seem more likely? - *August/September*	Inquiry question: How helpful is Diego Rivera's mural to learn what the Porfiriato was really like? - *November*	N/A
Laura and Elisa's section*	*Remote* • 120 minute session, Laura • 60 minute session, Laura • 60 minute session, Elisa	*In-person (group split due to Covid)* Subsection A: • 60 minute session, Elisa • 120 minute session, Laura • 30 minute session, Elisa Subsection B: • 60 minute session, Laura • 60 minute session, Elisa • 120 minute session, Laura	N/A
Laura's section	*Remote* • 75 minute session • 60 minute session	*In-person (group split due to Covid)* Subsection A: • 60 minute session • 60 minute session Subsection B: • 120 minute session	N/A
Global Citizenship 5th semester	Inquiry question: How powerful are the richest countries in globally impactful decisions? - *September*	Inquiry question: What did French revolutionaries want in the beginning? - *October*	Inquiry question: Are we Mexicans global citizens regarding Central American migrants? - *November*
Miriam's section	*Remote* • 120 minute session • 60 minute session	*Remote* • 60 minute session • 60 minute session	*In-person (group split due to Covid)* First half of group: • 60 minute session Second half of group: • 60 minute session
Carla's section	*Remote* • 120 minute session • 90 minute session	*Remote* • 120 minute session	*In-person (single group)* • 120 minute session • 50 minute session

* In this section, Laura taught Democracy National Sovereignty and Elisa taught Critique and Argument, and each teacher addressed the lessons in her respective subject. In the other 4th semester section, only Laura addressed the lessons.

Note that most of the lessons took place remotely due to the pandemic. We held the last lessons in-person, as soon as health protocols allowed for this option. In-person work came with noticeable advantages. We saw more and better student-student and student-teacher interactions and class discussions when students attended in person. Being in the classroom also allowed all students to access the lesson materials much more easily, since we had access to computers, projectors, speakers, whiteboards, and sometimes printed worksheets. It should be noted that this level of equipment was not the norm at this school (we held the lessons in computer labs), and is not always accessible in history and social science high school classrooms.

Each lesson included an inquiry question, a background building section, a set of adapted sources to evaluate and analyze, and a writing assignment. All the teaching and learning materials for each lesson were embedded within a Google Slides presentation (available here). Table 2.5 shows the inquiry questions and source sets for each lesson:

Table 2.5. Inquiry question and source set for each investigation

4th Semester: Democracy and National Sovereignty

Inquiry Questions	1. What causes of the fall of Tenochtitlan seem more likely?	2. How helpful is Diego Rivera's mural to learn what the Porfiriato was really like?
Sources	*Philologist Michel Oudjik and historian Matthew Restall's book excerpt* - Explains documentary evidence of Indigenous groups allying with the Spaniards to defeat Tenochtitlan *Historian Federico Navarrete's TV interview* - Explains the role of other indigenous groups in the war against Tenochtitlan. *Video with historians José Pantoja and Guy Rozat* - Critiques León Portilla's famous book which implies the Aztecs lost because of their superstitions. *Historian Guy Rozat's book excerpt* - Shows how an omen in an Indigenous account of the conquest draws from European tropes. (Complements previous source.) *Podcast with historian Mario Enrique Fuente Cid* - Explains that, contrary to popular belief, Spaniard	*Diego Rivera's mural, "Dream of a Sunday Afternoon in Alameda Park"* *Historian of art Veka Duncan's video* - explains the context of the creation of the mural and the elements in it.

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conquistadores didn't have metal armors or heavy weaponry.

5th Semester: Global Citizenship

Inquiry Questions	1. How powerful are the richest countries in globally impactful decisions?	2. What did French revolutionaries want in the beginning?	3. Do we Mexicans act like global citizens regarding Central American migrants?
Sources	• *News story about an upcoming meeting of the G7* - Says the G7 would discuss what to do in the face of the United States' mismanagement of their retreat in Afghanistan. • *World Health Organization's story about the COVAX mechanism to distribute Covid vaccines* - Describes the arrival of vaccines to the Dominican Republic and the Americas, and which countries donate vaccines. • *Wikipedia entry on the International Monetary Fund* - Describes the organization's origin, its leadership by rich countries, and its role in poorer nations. • *News article on Biden's climate summit in 2021* - Summarizes statements by leaders from the United States, China, Brazil, and Mexico.	• *Joseph Sieyès pamphlet "What is the Third State?"* - Denounces that the Third State had no power despite generating the most value, and demands that this changes. • *Tennis Court Oath* - The General Assembly vows to keep meeting until a new constitution is established. • *Excerpts of the Declaration of the Rights of Man and Citizen* - Includes articles on freedom, equality, the sovereignty of the people, and freedom of speech. • *Petition from the Women to the National Assembly* - Women denounced oppression and demanded social and political equality in the new republic.	• *Infographic on an upcoming hearing before the Inter-American Commission on Human Rights* - Explains that civic organizations will denounce the Mexican states' violations of migrants' human rights during the hearing. • *Press release after the hearing* - Recaps the organizations' complaints during the hearing. • *Video from the hearing* - An official from the government's Mexican Commission for Refugee Aid presents the governments' actions to aid migrants during the pandemic. • *Newspaper survey about citizens' attitudes towards migrants* - The excerpted survey question is about what the Mexican government should do about migrants. • *News article about two local organizations that support migrants organizing an event* - The events' goal was to garner kits for migrants and to call for the public's solidarity towards them.

Methods

Design

I used a Design-Based Research (DBR) methodological framework (Anderson & Shattuck, 2012; Design-Based Research Collective, 2003; Penuel et al., 2011; Reimann, 2010). With influences and antecedents traceable to Russian psychology, American cognitive science, and Dutch curriculum development among others, the emergence of Design-Based Research responded to an increasing need to account for sociocultural dimensions and ecological validity in education research, interventions, and innovation. In recent years, it has evolved into a methodological framework with flexible bounds but distinct common characteristics (Bakker, 2019). In contrast to other paradigms of educational research that study teaching and learning in controlled settings, or that constrain themselves to describing existing educational phenomena; DBR's approach is to advance theory and practice by designing interventions, sometimes called "design experiments" (Brown, 1992), in contextualized educational settings. The design of these interventions requires the collaboration of the stakeholders involved (typically, teachers, researchers, and sometimes administrators); each of them putting forward their perspectives, interests, and expertise to address issues they all agree should be addressed. The researcher's role is to posit design principles drawing from the existing research and theory (in this case, the design principles outlined above), while teachers contribute knowledge of their contexts, students, and professional expertise. With these as starting points, the stakeholders collaborate in designing an intervention for the particular context, which is then implemented, analyzed, and adjusted in multiple iterations. The insights from this process (i.e., how the intervention worked and why; what adjustments were made and why) contribute to the knowledge base, which in turn has the potential to travel to other educational settings.

Data Sources

During the preparatory stage, I recorded all seven remote meetings with the teachers. I also collected our meeting materials and notes. During the implementation stage, I recorded and took field notes of the class sessions for each lesson (joining remotely or in person depending on the format), and asked students to complete feedback surveys after each lesson. I also recorded the preparatory and debriefing sessions with teachers before and after each lesson. Thus, qualitative data from teachers' preparation, practice, and reflection serves as a basis to investigate how they took up inquiry lessons and the principles behind them.

The school's principal, teachers, and students were all informed and consented to be part of this study, and for the data to be collected and used for the study's purposes.

Analysis

Design-based research involves general principles to approach research, but it does not entail particular methods for data analysis: the specific method or combination of methods is determined by the nature of the data and questions at hand. I used a *deductive qualitative analysis* approach (Gilgun, 2019), which entails proposing initial qualitative concepts and hypotheses, and "the search for data whose meanings might lead to modifications, refutations, and reformulations of concepts and hypotheses" (Gilgun, 2019, p. 9). In this case, the design principles outlined at the beginning of the study served as the initial concepts and hypotheses. I analyzed our work with the lessons in light of these principles in order to gauge the extent to which they were taken up and how, and I sought to understand what may have promoted or hindered this uptake.

The first stage of this analysis was concurrent with the preparation and implementation stages: throughout the year, I kept a document with a log of each event (meetings and communications with teachers, classroom observations) and accompanying analytic memos,

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which served to adjust subsequent steps and lessons, as well as to document for ulterior analysis. In the next stage of analysis, once field work was completed, I created a spreadsheet with space for each design principle and each lesson for each teacher. As I reviewed the general document with logs and memos, I made notes in the spreadsheet about each design principle. I then reviewed the field data looking to flesh out, confirm, or disconfirm emerging patterns, sometimes with the help of ad hoc analytic artifacts and data arrays (Miles & Huberman, 1994). Finally, I drew from this analysis to compose the finding sections.

Findings

Teachers Found an Inquiry and Disciplinary Literacy Approach Valuable

At the beginning of our work together, teachers were intrigued and enthusiastic about my initial descriptions and examples of inquiry and disciplinary literacy approaches, but none of them had prior experience with them. Both the *National Sovereignty and Democracy* and the *Global Citizenship* courses had preestablished topics to cover, which teachers did through lectures, assigned readings from the course textbook or supplementary materials, and assignments such as infographics, summaries, or graphic organizers. Teachers gradually got to know, experiment with, and reflect on the potential and feasibility of the approaches.

In the following excerpt from a debrief during the preparatory stage, after teachers first tried out having students write from various sources, Elisa shared persisting challenges that she was observing in students' work (specifically regarding students writing their own conclusion, which we later defined as one of our target learning goals), to which Carla responded that the model we were developing could help address those challenges:

Regarding what Miriam just shared, I also checked their opinion pieces, and even though

Laura says some of them did well, what I am seeing is that students don't emit their own

opinions, but rely on a document that is already written, and they merely paraphrase the information. (…) That is, they aren't really forming their own opinion or their own critique: they are using their research and forming a Frankenstein, a copy-paste of ideas and what they already knew. By the end, in the conclusion, maybe they do distinguish a bit between their opinions and what they already had researched. (…) Adding to what Miriam said, they really struggle with sitting down and expressing themselves, that is, 'ok, I learned these things about the Revolution, or the social setbacks during the Porfiriato', but they don't say it in a personal way, there is no authorship. (…)

Carla: (…) I do think these challenges are there. Yes, and the problem is that there isn't meaningful development of skills, or building, or reading comprehension. That's a reality, but what matters here is that we are creating a model to mitigate this. (…) We have the diagnosis, and we are seeing it now, but I think we have a very good chance to begin guiding them through this study. (…) And it's not like no one knows or has these skills, or that they're at zero. There are skills, but they are low, and there are some students with high skills, but they're in the minority.

Throughout the project, Carla frequently noted features of the lessons that could foster different aspects of students' literacy. For instance, she thought that a focus on source evaluation aligned well with critical literacy, which calls for reading "behind the lines" (taking into account who wrote something, who commissioned it, who paid for it, why it was written, what ideologies inform it), and considering both a source's text and context. Carla thought that these are skills students don't initially bring, but can be taught, and can make the interpretation of texts richer.

Teachers' reflections - through written surveys, voice messages, or zoom debriefs - indicated they were taking note of different features of the approaches and what they afforded students, as

well as some of the challenges and potential adjustments to the lessons. For instance, in a survey after Lesson 1, both Carla and Miriam noted that an explicit focus on literacy had been a novelty for them and the students - Miriam added that she would need further practice to fine-tune the implementation. Carla thought that the use of current documents as a novelty that she would like to keep, because they help students connect the past and the present – a point Miriam also made. Carla suggested keeping the guides for source evaluation and writing. However, she thought it would be better to cut down on the sources, so that analysis could be deeper and the lessons could be finished in less class sessions. Laura reflected on a range of affordances of using different sources. For one, it allowed for showing students the value of analyzing different authors' stances on a single topic and questioning each one's reliability. The fact that the sources had different genres supported different styles of learning, as well as the development of historical thinking and historical consciousness, especially for students who saw history as boring. She also thought that the lessons had the potential to foster better student participation, interaction, and enjoyment; but that the virtual setting wasn't too supportive of this. Elisa appreciated that her students were able to draw on the sources they had read in in *Democracy and National Sovereignty* as they wrote their opinion paragraphs in her writing class, and said she would like to keep the collaboration between the two courses; but she wished she could better know the design of the lesson.

These reflections are illustrative of how teachers transformed their initial interest into more specific awareness of what an inquiry and disciplinary literacy approach entails and affords. Teachers continued to find value in the approach throughout the project, and they expressed interest in incorporating some of its features in their practice moving forward. This doesn't mean that they found every aspect to be successful (concerns with the quantity and

quality of students' participation in remote sessions were recurrent, and some teachers weren't satisfied with students' writing even after the last lesson), or that they took up all aspects of the lessons to the same degree (as the following sections will illustrate); but it does mean that their initial positive appraisal of inquiry and disciplinary literacy was sustained and substantiated after several rounds of practice and reflection.

Enactment of Lessons (More Than Preparation) Advanced Teachers' Uptake of Inquiry

After a few initial conversations, readings, and lesson examples, teachers decided to design and pilot their own lessons with inquiry questions, sources, and scaffolds they assembled themselves. In our debriefs, they were enthusiastic about the experience, and expressed continued interest in the next stages of our project. One roadblock in acquainting teachers with the approach during the preparation stage was that, as relayed earlier, they didn't fully engage in inquiry and disciplinary literacy practices themselves (or experience a cognitive apprenticeship model in doing so), as they felt this was unnecessary. Similarly, during the implementation stage, teachers did not engage with the lessons themselves beforehand in preparation for teaching, perhaps because they didn't have enough dedicated prep time, or because they did not think it was necessary. In general, based on my observations and teachers' self-reports, teachers got acquainted with the finalized materials when we reviewed them in our meetings prior to teaching, but these meetings did not entail in-depth reading or analysis. Often, teachers only got a fuller sense of the lessons' structure, sources, and disciplinary thinking and practices that the lessons entailed *as* they were teaching and working alongside students (e.g., their facilitation of source analysis activities suggested that this was the teachers' first time fully reading them and analyzing them alongside students; sometimes they upfront told this to students). In some ways, teachers fine-tuned their understanding of the inquiry structure proposed in the lesson materials

with repeated exposure and practice with the subsequent lessons. This was eventually reflected in clearer and more accurate framings of the lessons. Consider how Laura introduced the Tenochtitlan investigation the first time (with the 4ᵗʰ semester section she taught first) compared to the second time (with the subsequent 4ᵗʰ semester section).

Table 2.6. Transcription of Laura's introduction to Lesson 1 in two subsequent class sections

	First section	Second section
Overview	So the activity is titled The Conquest and the causes of the Conquest. We'll see what the reasons were, and justifications will be allowed here. [*Broken up audio, so the ideas above may be incomplete or distorted.*]	Our topic for the day (…) and the activity you'll develop is called The Conquest, **and there's a question which, you'll get in the role of a researcher** (…), maybe you'll feel like a sociologist, an anthropologist, a historian, or a doctor, an engineer… or whatever you want to be, but what is your opinion regarding this topic. Let's not forget (…) that this year was an important one because there are historical facts with great national transcendence [referring to the 500 years since the conquest]. (…) We will be sensitizing ourselves to this topic first. So the key question that you as researchers will be exploring, and conjecturing about, with the conquest as topic, is **What causes of the fall of Tenochtitlan seem more likely?** And here we will use a bit- remember how you did your exercises, or how we worked in Science Comprehension? There is a generative question and we will hypothesize.
Part 1	Look, I divided the activity into four parts, where we'll be seeing the connection with the previous content, which is the conquest of. Ok, we'll watch a video where we'll see the relationship with the previous content, which is the conquest of Tenochtitlan. We'll see what impression that gives you, maybe you can even relate it to issues of demographic growth, or environmental degradation, everything is allowed. **It's sort of a diagnostic activity.**	The first part we'll do –the activity will be divided in 4, 5 sections, and I'll explain why-, the first one **will be a sort of icebreaker or diagnostic activity around how we imagine that pre-Hispanic world, and for that purpose we'll watch a video**, which I'll guide in a second.
Part 2	Then we'll have a second moment, where, in teams, you'll answer a question that is on the [Google Classroom] board, which is, How do we know, or how can we know how the events occurred such a long time ago? And you will work individually, and then in teams. [Describes the logistics or working individually and in teams.]	In the second part you'll answer a question – in this activity you'll repeatedly be working individually and then in teams [Describes the logistics of individual work, work in teams, and note-taking in their notebook] There needs to be at least one product today, to upload into the platform, so that we have an

		evidence of this preamble, which we won't finish today, we'll have it for homework, but **we are sensitizing ourselves about the topic.**
Part 3	Then we'll have another moment where we'll do a **theoretical review of background for the topic** of the week, the conquest of Mexico-Tenochtitlan. Right now there is a lot coming out about that, since it's the 500 anniversary of the fall.	The third part of the activity is a **theoretical review of background**. There is a brief reading as part of the activity, and then two very short videos. It may seem like a lot of materials, but please don't be scared. I know this is not the only course, but do take the time, it's just a 3-minute video. Use the image, the music, and your imagination to **picture the context.**
Part 4	**And in a fourth moment, we'll do the analysis of diverse sources, of historians of this topic, that is, the conquest. It's an investigation, which is, the causes of the fall of Tenochtitlan, which ones are more probable.** Ok? So there will be individual moments and small group moments. I had asked you to bring blank papers or a notebook – we'll be using that. In the upper left corner you can write: **What causes of the Fall of Tenochtitlan seem more likely? That is what we'll investigate.**	The fourth item is the **analysis of different sources regarding what historians think about the topic – the conquest. Thus, the purpose is for you to submit a product after having assessed each of the different sources**, which are there on the pdf – don't think it's a whole book – each one is just one page. What we'll analyze here, and what we'll also see with teacher [author], is the didactic strategy she wants to prove and apply for her doctorate, whether it's a reading, a video, a conference or an interview, and you will be answering diverse information to **form your own criterion**. And the last step would be submitting a product using the resources at the bottom of the activity, you'll find them all there.

The second time around, Laura was much clearer and intentional in setting up the lesson as inquiry during the overview by posing the inquiry question and positioning students as researchers to explore and hypothesize about it. Moreover, in the second iteration, her description of each of the four parts in which she divided the lesson included a description of the purpose of each one, and not just a list of activities. In both descriptions of Part 4, she stated that students would analyze different sources with historians' views on the conquest. The first time was clearer in that she repeated the inquiry question and stated students would be investigating it, but the second description was fuller in that she explained students would be submitting a product after having assessed each source, and that they'd form their own criterion. However, in neither version did the teacher name the disciplinary literacy skills students would be practicing.

In other ways, exposure and practice through teaching alone was insufficient for teachers to take up key features of inquiry (especially given that the instructional time available to delve into the lessons was also limited). For instance, the Tenochtitlan inquiry featured complex historical interpretations of the fall of the Aztec city. Drawing adequate conclusions from the evaluation and analysis of these sources would have entailed much more thorough guidance from the teacher. In response to this challenge, I significantly simplified the design of the next inquiry: the inquiry question directly asked about the usefulness of a source (Diego Rivera's mural) for learning about the Porfiriato era in Mexican history, and scaffolding to support the teacher's and the students' historical thinking about this question were built right into the lesson. This allowed for one of the class sections to devote time to close work with the source, as will be detailed in another section below.

Inquiry Integrated Aspects of Culturally Relevant Pedagogy, Both by Design and Through Teachers' Additions

In the preparatory stage, teachers stressed the importance of creating lessons that would connect with students on a personal, social, cultural, and ethical level. At one point we even considered investigating students' interests and context as a starting point for designing our lessons. Instead, each course's curriculum served as our starting point. However, the lessons incorporated issues, sources, and framings we thought would be relevant to students.

This was most salient in the migration lesson in the World Citizenship course. World citizenship is often framed as a virtue for those who travel internationally; instead, here we framed it as something at play within Mexico, given that one of the most traveled migratory routes in the world goes through our country (with one of the sub-routes going through the state where the school is). World citizenship values include upholding migrants' and refugees' rights,

as well as lending them assistance regardless of their nationality. The two World Citizenship teachers facilitated activities in which students themselves were positioned as citizens, and took up the inquiry question as such (*Do we Mexicans act like world citizens when it comes to Central American migration?*).

Laura, the *Democracy and National Sovereignty* teacher, went far beyond the materials in terms of cultural competence. She frequently raised issues of identity, culture, and patrimony. For instance, when discussing the French influence in Mexican architecture during the Porfiriato as part of the background building section, she referenced big mansions students had seen along one of the city's downtown avenues to illustrate the style. She also referenced local landmarks to illustrate where big haciendas had been located. When one student complained that the ruins of a Hacienda building were still left standing nearby, Laura admonished her and explained the richness of preserving our historical patrimony. Moreover, I chose to center this lesson around Diego Rivera's mural because Laura and her students had previously worked with it in a cultural activity for *Día de Muertos*, and because students had experiences with murals in their own building and in buildings they had visited (Laura organizes many cultural activities for students and teachers in the community). Laura herself had included a video featuring this mural as part of the sources in her pilot lesson.

Teachers' Uptake of Building Background Mostly Aligned with Inquiry Design Principles

The background building sections of the lessons offered a fruitful ground for inquiry pedagogies (such as reflecting on open-ended questions, examining authentic sources, and making sense of the issues dialogically), even though they were only the preparatory stages for the inquiries per se. After iterative examples and discussions, the teachers and I reached a

common understanding about the preparatory nature of these sections. We called them the *Antecedentes* sections, and all the corresponding slides were labeled accordingly.

Each *Antecedentes* section opened with a reflection and discussion prompt, which we called *Para abrir boca* (a colloquial expression for 'conversation starter'). Through these, students began activating and connecting their experiences and prior knowledge to the inquiry topic. For instance, they watched a video with a digital rendering of the Valley of Mexico changing from Tenochtitlan to present-day Mexico City over seven centuries, and completed See, Feel, Think, Wonder tables which they then discussed. For the inquiry about the power of the richest countries, students were asked to list as many countries as they could in a minute, tally the results as a group, and discuss why certain countries were mentioned most often. In all cases, teachers implemented the planned interactive and dialogic activities, even in the remote setting. Table 2.7 shows examples for each lesson:

Table 2.7. Examples of dialogic Antecedentes activities implemented in each lesson

	Lesson 1	Lesson 2	Lesson 3
Democracy and National Sovereignty	*What causes of the fall of Tenochtitlan seem more likely?* • Discuss: How do we know, or how can we now how events from 500 years ago transpired? • Discuss potential causes of the fall of Tenochtitlan (before reading sources)	*How helpful is Diego Rivera's mural to learn what the Porfiriato was really like?* • Debrief after working on a See, Feel, Think, Wonder chart with Rivera's mural. • Debrief after watching a short biography of Porfirio Díaz: what was surprising, what seemed key to understand his story or the Porfiriato, what questions are there?	N/A
Global Citizenship	*How powerful are the richest countries in globally impactful decisions?* • List as many countries as possible in a minute	*What did French revolutionaries want in the beginning?*	*Do we Mexicans act like global citizens regarding Central American migrants?* • Do students consider themselves to be citizens? In what sense?

individually, tally the results as a group, discuss why certain countries were mentioned most often	• From a map of colonial empires in the 1800s, discuss the situations of France and other empires.	• Why would some people consider each type of cosmopolitanism important or desirable, and some wouldn't (moral, cultural, political, and economical)?
• Review country rankings by GDP, GDP per capita, and HDI; share noticings and wonderings.	• Review different historical interpretations of the French Revolution, discuss whether some seem more convincing.	

Through a mix of presenting information and eliciting students' prior knowledge and emerging connections and understandings, teachers integrated substantive as well as conceptual and disciplinary background into the Antecedentes section. For instance, in the Tenochtitlan lesson, students talked about how we know, or can know about events from 500 years ago. They discussed in teams (through WhatsApp) and then debriefed in whole group. Teams shared that our knowledge of the events may have been passed down orally, or it may have been captured in walls, in monuments, in the Spaniards' writing, and in sources historians use nowadays. However, one team representative reasoned, "we can't know for sure if everything they tell us and teach us is true. We could only know if we unearthed the cathedral." The teacher followed up on students' ideas by explaining Indigenous and Spaniards' written records, artifacts, archeological evidence, archivists' techniques, and the institutions that safeguard vestiges of the past as part of our legacy. In addition to expanding students' ideas about how and why historical knowledge is built, this discussion presumably also activated and expanded students' substantive knowledge (i.e., about Indigenous systems of writing, about the material conditions of Cortés' arrival, etc.) Thus, the Antecedentes sections were far from traditional lectures, as observed in some of these classrooms prior to the lesson. There were differences across teachers, with some being more effective than others in facilitating activities and discussions, and some bringing in more additional information.

The main challenge with the implementation of the *Antecedentes* sections was the amount of time spent in them, and the little time left for work with sources and writing during class sessions (so these were largely assigned as homework). This happened because the *Antecedentes* materials were extensive, addressing information and concepts that students might need for the inquiry. Teachers were free to cut and adjust based on their students' needs, but they tended to think most of it was relevant and keep it; and *Antecedentes* sections consistently took up over half of class time, especially when class sessions were even shorter than usual (i.e., when teachers had to split their sections into subsections when they met in-person) (see Table 2.8 below). For this reason, we strove to make these sections condensed and purposeful.

Table 2.8. Proportion class time spent on Antecedentes in each lesson

Section	Lesson 1	Lesson 2	Lesson 3
4ᵗʰ semester, Laura and Elisa's section	120/240 mins 50%	Subsection A: 120/210 mins 57%	N/A
		Subsection B: 190/240 mins 79%	
4ᵗʰ semester, Laura's section	70/135 52%	Subsection A: 95/120 mins 79%	N/A
		Subsection B: 120/120 mins 100%	
5ᵗʰ semester, Miriam's section	115/180 mins 64%	80/120 mins 67%	Subsection A: 60/60 mins 100%
			Subsection B: 45/60 75%

5ᵗʰ semester, Carla's section	70/210 minutes	60/120 mins	90/170 mins
	33%	50%	53%

With Some Variation, Teachers Valued and Took Up Discussion, Especially In-Person

After the teachers informally piloted inquiry lessons in their classrooms during our preparation semester, they commented on the value of the discussion that had been generated. They also thought that having students work in small groups – which was apparently a new practice for them - had been an asset in the lessons, so they decided to keep this feature. Carla, for instance, surveyed her students after her pilot, and she reported on their feedback:

> *[They said] it was cool, because they shared ideas in their groups, and whatever someone didn't understand was complemented by what someone else had, right? That is, getting together after reading, in order to analyze more deeply drawing from the understanding from the others in the group. Also, they told me that when they got into teams, the interpretations of different members were sometimes different. And, contrary to what one might think – that this would hinder the work - it helped them, because those different interpretations within the team enriched the evaluation or the assessment of the questions.*

Small group and whole group discussion activities and prompts were built into the lesson slides throughout all stages of inquiry, and teachers enacted them from the beginning, especially in the Antecedentes sections, as illustrated in Table 2.7.

Enacting small group discussion in remote sessions was a challenge, because the platform teachers were using didn't allow for breakout rooms. Laura found a way around this by having students form groups and communicate through WhatsApp; this way, they could exchange a few ideas amongst themselves before talking in the whole group. Students participated in whole

group discussions using their microphones, and sometimes the chat function. This contrasted with two of the teachers' remote sessions from their regular practice observed prior to implementation, which were almost exclusively lecture-based.

Not only does the presence and amount of discussion matter in historical and social inquiry: the way teachers facilitate discussion matters, too (Monte-Sano et al., 2021; Reisman et al., 2017). In this study, teachers' facilitation varied, with some styles and moves being more conducive to students' participation, sense-making, and learning than others. Table 2.9 illustrates this by juxtaposing the same discussion in two different remote class sections facilitated by different teachers. These discussions were part of the *Antecedentes* in the inquiry about the power of the richest countries. A slide presented lists of the richest countries by three different critieria: GDP, GDP per capita, and Human Development Index. The prompt read "What stands out to you? What questions does this raise? Discuss in whole group."

Table 2.9. The same discussion in two remote class sections, facilitated by different teachers

Miriam's section	Carla's section
Teacher: [Explains what each of the three indices refers to, although she incorrectly says the GDP only refers to income from exports.] Ok, what stands out to you, and what questions come up? Hurry up, because we don't have much time left. [22 seconds of silence.] **Teacher:** Let's see, I'll help you out. If you see here, the United States is in the first position by GDP, that is, they sell many things, and mainly what they sell is weapons - we also talked about that in previous classes. So they have a very high net domestic income, so it's up here in first place. But if you pay attention, it's not in here or in here. That is, in income per capita, per person, it's not longer in first place. Nor in the human development index - notice it's Norway here. Could that be because it's very cold and they conserve themselves? And here is Luxembourg, a really, really tiny country in Europe. Do you see the difference, can you observe it? **Student 1:** Yes. **Teacher:** Yes? **Student 2:** Yes.	**Teacher:** [Explains what each of the three indices refers to, and asks students to observe the list.] What stands out to you in these lists? Who are you noticing? **Student 1:** All countries are repeated. But I think Mexico is only in the GDP list. **Student 2:** The United States is there two times, right? **Student 3:** Three. **Student 2:** Three, it's in the three columns. **Teacher:** Aha. In the first one it's at the top, in the second one it's in seventh place, and in the third one - which integrates life expectancy, education, and income-, it's down in the 17th position. And your classmate was saying that Mexico is on the 25th position in the first column, but not in the other columns. What else do you notice? What stands out to you from these lists? **Student 4:** It stands out to me that Hong Kong is classified in the Human Development Index list, since it's supposed to be part of China, which I find curious. **Teacher:** Why do you find it curious? **Student 4:** Because of Hong Kong's history, apparently it was part of China first, then it became the United States', and now it's a country that's not -how is it

Teacher: [Expands on the US being high up in one list but not the others.] What do you think about that? The table is interesting, isn't it, guys? [Notes where some other countries are] In any case, what else can you observe? Notice where the United States are in GDP per capita. Where are they? Oh, in 7th place! So from 1 to 7. Help me find it here in the Human Development Index, guys, where are the United States?
Student 2: Seventeen.
Teacher: Seven?
Student 3: Seventeen.
Student 2: Seventeen.
Teacher: Look at how low it falls. Look, from 1, 7, and 17. How about that? Canada is better positioned, New Zealand, Finland, the Netherlands, Australia! What kangaroos can do. Japan! This stands out to me, because Japan also has a great longevity, and here it is in the 19th position. Very good. Look for Mexico. Mexico is in the 15th place by GDP.
Student 2: It's not there
Student 3: I think it's only there.
Teacher: It doesn't make it to 20. No, right? And here, where the list includes 22… Oh, guys, we're gonna die soon. Let's see, the Russians? [Looks for and comments on Russia's and Saudi Arabia's positions, with brief help from students 2 and 4.]
Teacher: They're not there either. And they have so much money! Comes to show, guys. They're also dying soon. Well, it's supposed to be a speculation, how long they're gonna live, it's a statistical issue, but it's not a great truth. Ok, any questions here? Anything that stands out to you?
Student 2: No.
Teachers: No? Look, the Brazilians are well off! But they're not here either. Let's see, Spain is in 14th place, but it's not here either, is it?
Student 2: Switzerland is the best one.
Teacher: Yeah, no. Very good.

called?- not recognized either by the UN or by China itself, but if I remember correctly, there are around 120 countries that recognize it as an independent country, and that's why I think it's classified as a country separate from China.
Teacher: Someone else, something that stands out to you from this list? I will tell you that this list is new for me too. I only saw it a few days ago, and I thought it was interesting how you could read it in many different ways. Ok, one more person, or should we stop here and go to the next slide?
Student 5: I thought it was interesting that Qatar was in the 4th position in GDP per capita, because personally, I believe a lot of us subestimate this country located in the Middle East, and we think, 'Oh, Qatar, a poor country', or something like that [chuckles], but in reality that's not the case.
Teacher: And if we're talking about these countries as rich, look at the reading you could do for each country, right? You are rich according to what you produce, you are rich according to what each inhabitant gets, or you're rich because your life expectancy, education, and income are good. That is, the reading you can do of each one regarding each aspect. The analysis in the tables is really interesting, and it would take us not just one class, but many, and this is just for one topic - this could be cool to revisit later. And the insights you just shared are also very illustrative - for example, I had never thought of Qatar, like you said, but it's interesting to see it that way.

Carla asked more open-ended questions, prompted more lengthy student turns by asking follow-up questions (Why do you find it curious?), and positioned herself as an inquirer alongside students (i.e, "Someone else, something that stands out to you from this list? I will tell you that this list is new for me too. I only saw it a few days ago, and I thought it was interesting how you could read it in different ways"; "the insights you just shared are also illustrative – for example, I had never thought of Qatar, like you said, but it's interesting to see it that way"). Meanwhile, Miriam also tried to elicit students' thinking and model interest ("What do you think about that?

The table is interesting, isn't it, guys?"), but ended up doing more of the talking and thinking herself.

After their second remote lesson, two of the teachers shared concerns about their students not participating enough, not being reflective enough during discussions, and the same few students participating over and over. Partly because of this, once health guidelines allowed for the option of in-person sessions, we decided to hold the last lessons in-person. For many students, this was the only in-person school experience they had in the whole year. These sessions were also the first time the teachers were meeting most of the students in person. Once in the classrooms, little to no time was spent on introductions: teachers launched straight into the lessons. Yet, participation and discussions dramatically increased in comparison to the remote sessions; not only in the moments in pair/small group and whole group prompted in the slides, but in many other, unscripted ones too. There were also numerous one-on-one interactions between the students and the teachers, which had been very limited remotely. Partly because of the in-person setting, and partly because of improvements in design and time management, in some class sections it was possible to enact a key aspect of the lessons for the first time: having students work through sources (and in one case, even writing) dialogically during class. The increased opportunities for interaction and discussion were appreciated by teachers (who noted it right after the sessions) and by students (through their feedback on surveys).

Limited Uptake of Disciplinary Literacy Practices (And Design Principles to Foster Them)

Teachers wanted to infuse literacy in their courses, in the sense of having students engage with and produce a range of "texts" (in a broad sense that includes but is not limited to written ones). One particular interest was fostering students' critical literacy (Cassany, 2006). They weren't thinking of disciplinary literacy per se, but they saw the inquiry model I proposed (a

model including working around an inquiry question, working with sources, and focusing on the three disciplinary practices we settled on: evaluating sources, analyzing sources, and writing personal conclusions) as conducive to their goals.

The overall structure of the lessons, which entailed meaningful thinking, reading, and writing to make sense of historical and social issues, was taken up in all cases. Students were asked to engage with authentic topics, as well as multiple, authentic sources in multiple genres, evaluate them, analyze them, and draw from them, rather than listening to a lecture. Students were also asked to write much more than a traditional report drawing from textbook or reference materials: they were asked to draw from their work with multiple sources, take a stance in response to an open-ended question, and substantiate it.

Through this work, teachers addressed aspects of critical literacy as they had set out to do. For instance, when teachers and students worked together on sources, they addressed "functional" aspects (such as decoding graphs in a newspaper survey), "cultural" aspects (such as exploring feelings and thoughts elicited by a video showing seven centuries of change in the Valley of Mexico), and on more squarely "critical" aspects (such as grappling with the meaning and trustworthiness of a newspaper article reporting on country leaders' statements about climate change). Both the *Antecedentes* sections and the work with sources afforded opportunities to address different aspects of disciplinary literacy in rich ways that were integral to the historical and social issues under investigation.

However, the instruction and class time for our three focal disciplinary literacy practices (evaluating sources, analyzing sources, and writing personal conclusions in response to the inquiry question) was limited, as was the uptake of the design principles in place to support those practices specifically.

Per Design Principle 4, *Using a Cognitive Apprenticeship Model*, the lesson materials called for teachers to teach and model disciplinary literacy practices themselves first, making explicit and visible to students what they were doing as they were doing it, and then having students practice with their guidance and feedback, gradually removing scaffolds as students became more autonomous. This was sparsely implemented, as source evaluation and analysis were minimally taught and practiced during class. Writing was even more minimally taught, and it was not practiced during class, with one exception.

One of the main barriers for the uptake of a cognitive apprenticeship approach was the limited time allotted to each lesson, and the even briefer time left after the Antecedentes sections. Another likely barrier was that teachers never became fully familiar either with the disciplinary literacy practices themselves, or with the cognitive apprenticeship approach to teach and learn them. Considering these obstacles, how did teachers promote disciplinary literacy practices in the lessons?

For source evaluation and analysis, teachers were asked to model and facilitate practice using an in-depth, step-by-step tool (adapted from the *Read.Inquire.Write.* Bookmark tool (*Read.Inquire.Write.* team, University of Michigan, 2019) as well as a graphic organizer to synthesize the main takeaways for each source and for the source set as a whole. In the implementation, the tool was left aside for the most part, and the much simpler graphic organizers became the *de facto* guides for source evaluation and analysis. For instance, the tool asked students to consider who created a source, when, where, why, and what type of source it was, and then consider which of those details mattered for the source's reliability given the inquiry question. Meanwhile, the graphic organizer merely asked how useful and trustworthy each source was for responding to the inquiry question.

In some cases, source evaluation and analysis were entirely assigned as homework for students to complete on their own. But in most cases, students did an initial pass on their own, then came back together in class, and teachers prompted them to share out some of their notes from their graphic organizers, thus building a collective example. During these co-construction sessions, to varying degrees, teachers themselves were engaging with the sources for the first time. This had the advantage of allowing for an authentic and dialogic co-construction without preconceived answers. However, the drawback was that teachers often couldn't provide necessary guidance and feedback. (For example, in one of the Tenochtitlan sources, a historian argued that the Spanish conquistadors didn't have metal weaponry or armory to the degree that is commonly thought. When a student shared the opposite takeaway, the teacher could not redirect him, because she hadn't listened to the source.) Teachers' own sparse engagement with sources could signal that they did not attribute them a central role in history and social science inquiry.

I addressed this challenge for the second lesson in *Democracy and National Sovereignty* through reducing the scope and complexity of the sources, building more of the source evaluation and analysis throughout the lesson materials and activities, and providing the teacher with a facilitation guide. This allowed for added focus and depth on source analysis, even with limited class time, thus approximating Principle 4, *Using a Cognitive Apprenticeship Model*. This second lesson focused on whether a single source – Rivera's mural – was reliable for learning about the Porfiriato period. Students considered this in class with the teacher's guidance, and with the input of an art historian's video describing the content and context of the mural. Below is part of the collective graphic organizer used during the analysis:

Figure 2.1. Collective graphic organizer: How helpful is Diego Rivera's mural to learn what the Porfiriato was really like?

The mural *"Dream of a Sunday Afternoon in Alameda Park"*		My thoughts on the question *How Helpful is Diego Rivera's Mural to Learn What the Porfiriato Was Really Like?*	
Context of the mural (Who created it, when, why, for whom, in what context, from which perspective...)	**Elements and characteristics of the mural**	This makes me think the mural **DOES help us** learn what the Porfiriato was really like because ____	This makes me think the mural **ISN'T that helpful** learn what the Porfiriato was really like because ____
Diego Rivera painted it in 1947 He painted it to be exhibited at the luxurious Hotel del Prado near the Alameda He made it so that plastic arts and architecture would go together To tell history		Diego Rivera based it on his experience and memories	It represents many things from history chronologically, not just the Porfiriato. There are figures from before that don't belong to the Porfiriato
	It shows different historical figures dressed differently	Yes. We can see the different social classes in the historical figures' different dresses.	
	It's focused on intellectual figures more than war figures. It's a history of ideas.	There are figures from the Porfiriato	Not so much, because if the figures are intellectual, that's only part of the Porfiriato, but doesn't fully tell us what it was like.
	It's not as literal. It combines facts, memories, and dreams. It's based on his memories and his life. Balloons, candy, band.	Yes, because part of them really happened. His life was part of the Porfiriato. It helps us know the customs of the period.	No, because parts of it were imagined.

In this case, the source under analysis was a visual source. A similar solution – narrowing the source set and/or focusing the inquiry question on the sources themselves – could have been implemented with textual sources in order to increase students' opportunities to practice close reading and analysis of written documents, with added attention to the linguistic disciplinary features and challenges they posed.

Even though a cognitive apprenticeship approach wasn't enacted as designed in the lessons, the cases where there was co-construction of source evaluation and analysis during class were a step up from assigning it for homework, and they provided opportunities for students to engage in these disciplinary practices. This registered metacognitively with many of them: in post-lesson feedback surveys, when asked whether they had learned any skills or strategies through the lesson, they often mentioned ideas related to source evaluation and analysis, organizing information , and researching topics (e.g., "*I learned a new way to synthesize information*"; "*Yes, verifying if a source is trustworthy, gathering information, and above all ask myself what I want to learn most.*")

Design Principle 6, *Using a process approach to writing*, was taken up in the sense that the entirety of each lesson gradually built up to the final piece of writing. But it was not taken up in the sense that little attention was given to the composition process itself. Teachers went over the writing supports (a poster listing the components of the text, an example text, a graphic organizer, and sentence starters) to varying degrees, but the writing itself was mostly assigned as homework (except in one case, in which there was a prolonged in-class writing section with peer and teacher support, with the aid of the writing supports). Because of this, we could also say the uptake of Principle 7 (*Using differentiated literacy instruction and supports*) was also limited. Moreover, teachers did not closely read the writing that students submitted, nor did they provide

substantive feedback. To the degree that these issues were due to time constraints, one way to address them would have been through an integration with language courses, as we attempted to do between the *Democracy and National Sovereignty* course and the *Critique and Argument* course by having students do the writing component in the latter; however, we didn't manage to develop a robust coordination between the activities, content, or pedagogical approaches of the two courses. Apart from time constraints, it is likely that the limited focus on writing stemmed from the fact that teachers didn't hadn't engaged in the lessons' writing themselves, nor gotten sufficiently acquainted with pedagogies for teaching it.

The following table summarizes teachers' uptake of each design principle (in regular font), as well as potential adjustments for future projects with teachers who are new to an inquiry and disciplinary literacy approach (in italicized font):

Table 2.10 Summary of teachers' uptake and potential adjustments by design principle

Design Principles	Teachers' uptake in this study and potential adjustments for future projects
1. Frame history and social sciences as inquiry	• Teachers saw the value in an inquiry framing of lessons, and they took up its core components. • *Future projects can continue using prepared teaching materials that guide the components of inquiry, address existing curriculum topics, and aid in teachers' uptake of inquiry.* • *Future projects can explicitly draw on teachers' disciplinary expertise to inform the framing of history and social sciences as inquiry.*
2. Tend to cultural relevance and frame history as a social practice/tool	• Framings and sources relevant to teachers and students favored teachers' uptake of the lessons. • *Future projects can explicitly center sociopolitical and cultural goals of history and social science education to address through an inquiry and disciplinary literacy approach.*
3. Develop connections and background knowledge	• Even if lecture was their primary pedagogy, teachers took up background building materials with inquiry and disciplinary literacy orientations, with the aid of guided materials. • *Future projects can continue using prepared teaching materials that guide background building with inquiry and disciplinary literacy orientations.*

	• *Future projects can pair down background building materials and/or more directly tie them to the source set, so that more instructional time can be spent on work with sources and writing.*
4. Use a cognitive apprenticeship approach	• Teachers spent limited class time on work with sources and writing; provided limited instruction, practice, or feedback in disciplinary literacy practices; and mostly had students work on them on their own as homework.
	• *In future projects, several aspects of the lessons' design could promote greater uptake of disciplinary literacy teaching and learning: The lessons could be simplified to counteract time constraints. They could include fewer sources and focus on fewer disciplinary practices. The inquiry question itself could refer directly to the sources and disciplinary practices (e.g., "Can these sources help us learn what this historical period was really like?"), and the lesson could embed specific guidance for teachers and students (including guidance for specific literacy features and demands of the texts).*
	• *Future projects should prioritize teachers' own orientation to the sources, to the disciplinary literacy practices, and to pedagogies to teach them. These pedagogies could include some modeling and co-construction of analyses, instead of aiming for a full cognitive apprenticeship model initially.*
	• *Future projects can use simpler disciplinary literacy supports (i.e., a graphic organizer with embedded questions vs. a complex guide for reading and analyzing sources), which have greater uptake.*
5. Foster and facilitate discussion	• Teachers took up small group and whole group dialogical activities prompted in the materials, as well as whole group discussions to analyze sources with students' input, even if they predominantly used lectures in their regular practice.
	• *Future projects can use a framework like Reisman et al.'s (2018) to support teachers' discussion facilitation – either through prior preparation or through embedded guidance in the teaching materials.*
6. Use a process approach to writing	• In taking up the core structure of inquiry and disciplinary literacy lessons, teachers also took up a process approach to writing, in that the lesson as a whole built up to a writing assignment.
	• However, they tended to leave the writing as homework, and provide little to no instruction, practice, or feedback; thus relegating writing as process.
	• *Future projects can promote a process approach to writing through the same strategies to promote disciplinary literacy instruction outlined in Principle 4.*
	• *Future projects can further promote a process approach to writing through in-class writing sessions with writing tools (graphic organizer, sentence stems), teachers' whole group and one-on-one guidance, and student-student interactions.*

7. Provide differentiated literacy instruction/supports	• In this study, the lessons did not incorporate differentiated literacy instruction or supports, nor were these enacted. However, the lessons featured adapted and prepared sources, which likely favored students' engagement with them (especially during in-person sessions, with computers where students could properly access and use the materials). • The absence of in-class writing sessions precluded individualized writing support from the teacher; in contrast, the in-person, in-class writing session that took place allowed for this. • *Future projects should try to ensure students' proper access to materials to support their engagement with disciplinary literacy.* • *Future projects can promote individualized writing support from the teacher through in-class writing sessions.* • *Future projects can tend to diverse literacy profiles, and embed additional ways to support foundational reading and writing skills in tandem with more advanced ones.*

Discussion

This study set out to investigate how Mexican high school teachers took up lessons with an inquiry and disciplinary literacy approach in History and Social Sciences, which drew on internationally-developed design principles and literature, in order to explore the feasibility and potential of the approach in a Mexican context. Collaborating with teachers who were already interested in infusing literacy into history and social science courses was a favorable starting point for this exploration. What do the results from a preparation and an implementation stage suggest about how the design principles traveled to a new setting? And what could be the implications for subsequent work? I will focus first on ways in which the uptake of the lessons was more straightforward, and then on aspects in which it was more challenging.

In many ways, teachers found an inquiry and disciplinary literacy approach appealing as they got acquainted with it through readings, examples, and dialogues; and they found it feasible and valuable to a considerable extent as they implemented their own pilot trials, and then lessons designed by a researcher around their curriculum. In enacting these lessons, teachers framed them as historical and social inquiries in which students would connect to an issue, engage with

diverse sources, and form and write their own conclusions in response to open-ended inquiry questions (De La Paz, 2005; Monte-Sano, 2008; Monte-Sano & Allen, 2019; Reisman, 2012a, 2012b). Although this may seem like an inevitable outcome, given that the lesson materials themselves guided this framing and its enactment, teachers could have not implemented them at all, they could have omitted the sources, they could have adopted a transmissional approach in which students would have only been expected to take in the information, or they could have led students to respond to the questions in pre-defined ways. Therefore, teachers' general uptake and valuing of the inquiry and disciplinary literacy approach in the lessons is a promising finding regarding its plausibility in comparable conditions and settings.

Similarly, Fogo et al.'s (2019) survey of 1900 teachers voluntarily using the *Reading Like a Historian* curriculum found that many teachers modified the materials, but rarely affected the core structure or the theory of content of the lessons (i.e., they kept the central historical questions, the document sets, and the inquiry structure). The authors argued that this showed "curricular fit" (an alignment between the teachers' experiences, beliefs, and commitments, and the instructional principles of the curriculum), which could be explained by the curriculum's transparency in exposing its core principles, by the adaptability of the materials, and by their modular nature (which allows teachers to incorporate whole lessons without affecting other aspects of their instruction, all while providing a consistent lesson structure and consistent instructional scaffolds). Some of these features might have been at play when the teachers in this study also kept the core features of the lessons. However, Fogo et al.'s (2019) findings were mostly based on teachers' self-reported practices, and they called for further exploration of how different teachers adapt and enact similar curriculum materials on the ground. Indeed, even

though the teachers in this study also kept the core features identified by Fogo et al., their uptake had key nuances that I will present in this discussion section.

It is important to note that I designed the lessons following teachers' cues in terms of the content focus (as part of their mandated curriculum), and taking into account particular framings and sources that they and/or myself deemed relevant for them and for their students. These features of the design likely contributed to the teachers' uptake of the lessons: an inquiry and disciplinary literacy approach without them probably wouldn't have been equally well-received. Moreover, some of the teachers were able to build on the lessons adding cultural competency components. This is significant given that a disciplinary approach to history and social science education is sometimes seen as too academic and separate from social, cultural, and political goals; in contrast, I worked on this study under the assumption that disciplinary orientations and social goals can be complementary. One of the moments that patently showed this complementarity was when Laura facilitated the conversation about how we can know what happened five hundred years ago, which elicited issues of historical evidence as well as cultural patrimony, informed by her expertise in both realms. Further research could more explicitly center and explore how inquiry and disciplinary literacy can work in tandem with sociopolitical and cultural goals such as historical consciousness, critical consciousness, cultural competence, and civic agency building in Mexico, with both components elevating each other. Santiago and Dozono (2022) have recently articulated one vision for this integration under the construct of Critical Historical Inquiry. Subsequent projects could also take advantage of a feature conducive to integrating disciplinary literacy with more broad social aims: setting up the writing tasks to have authentic audiences and purposes (i.e., writing to local media, organizations, government officials, in social media, etc.). The lessons in this study did not have this feature, despite it being

in Design Principle 2 (Goldman et al., 2016; Graham & Perin, 2007; Monte-Sano & De La Paz, 2012; Monte-Sano & Allen, 2019; Troia, 2013).

The *Antecedentes* was the lesson component that teachers took up to the greatest extent, both in terms of fidelity to the design principle and in terms of proportion of dedicated class time. In the *Antecedentes* sections, teachers guided students to make connections between their prior knowledge and experiences and the issues at hand (Epstein, 2010; Goldberg et al., 2008; Gutiérrez, 2008; Reisman, 2012b); fostered their interest; helped them expand their substantive, conceptual, and disciplinary background (Chambliss & Murphy, 2002; Reisman, 2012b; Bain, 2012; Shelmilt, 2009), often with the help of supplementary authentic texts in different genres; framed the historical and social issues as open-ended inquiries around inquiry questions; and positioned students as active sensemakers. The *Antecedentes* also integrated dialogic activities (although facilitation varied, and could be the object of further attention and improvement using a framework like Reisman et al.'s (2018)).

Even though the *Antecedentes* sections were intended as preparatory components of the lessons, they were already aligned with an inquiry and disciplinary literacy approach, and far from a mere front-loading of content. Likely, several factors played into the teachers' fidelity and thoroughness in taking up these sections (in contrast to the subsequent work with sources and writing): a) The *Antecedentes* materials themselves were lengthy and thorough; b) the teachers found appeal and relevance in the framings of the topics and the embedded materials and activities (e.g., information, graphs, videos, maps, photos, and dialogic components); c) the *Antecedentes* materials were easy to implement, given the step-by-step prompts for teachers and students; d) perhaps teachers' greater familiarity and expertise with background building than with the subsequent components of the lessons (work with sources, writing) factored into them

allotting more time to the former than to the latter. In any case, it is interesting to note the potential of these kinds of background building materials for teaching and learning historical and social content in meaningful ways, even as stand-alone lessons.

As a counterpoint to the thoroughness with which teachers implemented the *Antecedentes* sections and the amount of time dedicated to them, the subsequent work and instruction with disciplinary literacy practices was not taken up to the same extent. Part of the reason was that the lessons as a whole were more ambitious than the available instructional time allowed for. Thus, the latter stages of inquiry suffered more cuts (as was the case for the teachers in Thacker and Friedman's (2017) study of teachers' uptake of the C3 Framework for inquiry). Time constraints were even more exacerbated because classes met less frequently and/or for shorter periods due to Covid-19 (both remotely and in person), with more of the work being assigned for students to complete independently.

The issue of limited time could be mitigated through different strategies, such as tightening and simplifying the lessons (as was done with Lesson 2 in the *Democracy and National Sovereignty* course), focusing on fewer disciplinary literacy practices at a time, or following a flipped classroom model so that students do more of the preparatory work on their own and then come together to work on the disciplinary literacy practices along with their teachers and peers. Alternatively, teachers could sacrifice content coverage in favor of spending more time on certain topics (although this could require challenge the established scope and sequence), or coordinating with teachers in language and other courses to pool together more time for inter-disciplinary inquiries (as was attempted in this study).

However, time was likely not the only factor in teachers' more limited emphasis on disciplinary literacy practices, or their limited uptake of a cognitive apprenticeship approach to

teaching them. These components probably represented a steeper departure from teachers'

existing approaches, which was manifest both in the preparation and the implementation stages

of the project. Yet, the teachers had students engage with disciplinary practices as independent

work as part of their assignments, and dedicated time in class to explain them, debrief them,

and/or practice them to varying degrees. This indicates that teachers conceived these components

as an integral part of the lessons, as they also made explicit in our meetings and to their students.

It makes sense that these would be areas of challenge and uneven uptake, just like other aspects

of teaching with inquiry, disciplinary literacy, and cognitive apprenticeship (Alston et al., 2021;

Monte-Sano & Budano, 2013; Monte-Sano & Cochran, 2009; Monte-Sano, 2011; Monte-Sano et

al., 2017).

It also seems plausible that this uptake could increase through added and improved

preparation opportunities (theoretical and practice-based), repeated exposure and opportunities to

practice, and supportive curriculum materials, as already seemed to be the case for the duration

of the study. In Reisman and Fogo's (2016) case study of a teacher's uptake of the Reading Like

a Historian curriculum, the authors suggested that the limited uptake of modeling of disciplinary

practices could be explained by limitations in subject matter knowledge and pedagogical content

knowledge. The authors considered ways to embed teachers' development of content knowledge,

pedagogical practices and moves, and anticipation of student responses through PD and through

the curriculum materials themselves. In a context like this study's, where PD time is limited, and

teachers are not yet acquainted with the sources or their implications, there could be a teacher

guide that succinctly reveals "the reasoning and logic behind the curriculum designer's selection

and sequencing of a lesson's documents", as well as "common student understandings and

misconceptions(…), with attention to specific points in the activities and materials that might

elicit particular student responses, as well as suggestions for how a teacher might respond to such comments" (p. 201). Future projects could also optimize limited teacher preparation time by prioritizing pedagogies of practice -representations, decompositions, and approximations of practice - (Grossman et al., 2009) to introduce teachers to the pedagogical approach, especially when it comes to disciplinary practices and disciplinary literacy.

Teachers' uptake of lessons based on inquiry and disciplinary literacy –and their underlying design principles– are indicative that this approach is a feasible and promising area of work to keep pursuing in Mexico. This work can fruitfully draw on and contribute to the rich body of international research and "pedagogical experimentation" with these orientations (Christou & Berg, 2020), starting with other Latin American countries where comparable work is pursued, and with whom Mexico shares substantial commonalities in terms of history, social sciences, literacy, and education.

Chapter 3 Source Evaluation in History and Social Science in a Mexican High School: A Case Study of Beginners' Engagement

Introduction

In history and social science courses in Mexico, as in other countries, text and resources are often used and taken at face value. Whether it's the textbooks and materials provided to students, or the resources they find online for their research assignments, rarely is there attention to the origin or nature of these materials beyond their content. Teachers and students spend little time evaluating whether the materials are reliable for their purposes. This is a missed opportunity, because the issues covered in history and social science can be leveraged for meaningful development of the important life skill that is source evaluation, and because source evaluation can be a point of entry into deeper - sometimes discipline-specific - consideration of those issues.

Consider this excerpt from a class discussion during one of the lessons in this study. Students were investigating whether Mexicans act as global citizens with regards to Central American migrants in transit through Mexico. As part of this investigation, students read several sources. One of them was a press release by the PRODH human rights center about a hearing before the International Human Rights Commission, in which numerous civic organizations denounced human rights violations towards migrants. But students did not merely take the contents of this press release at face value: they evaluated the degree to which it would be a useful and trustworthy source for the question they were investigating:

Teacher: "PRODH Center Press Release on the Hearing." We are still talking about the hearing. In this case, the headnote tells us that the Miguel Agustín Pro Juárez Center for Human Rights was one of the civic organizations participating in the hearing before the International Human Rights Commission. On July 1, 2021, after the hearing, the PRODH Center wrote this press release to inform the public of what had happened. Here they're telling us what happened, right? So, first: how useful and trustworthy was this source to answer our inquiry question? Was it more useful or just as useful as the previous one?

Student A: More or less.

Teacher: How so?

Student B: It helps us know the context of the hearing.

Teacher: Ok. Who else? (...) What was more and what was less useful?

Student C: In contrast to the previous source, this one describes the main problems, the violations to migrants' human rights. It's more useful.

Student D: I found it more trustworthy than the infographic, because it was made by an organization that directly participated in the hearing.

Teacher: In other words, they were present in the hearing. Where does it say that?

Student D: In the headnote it says they were there.

In this excerpt, students were considering that the press release would be useful to them because of the information it provided: it described the government's human rights violations towards migrants, as denounced by civic organizations during a hearing. They also considered the trustworthiness of the press release given its creator - in this case, a human rights center who was present in the hearing, and was therefore positioned to report on it. Without these considerations, students could have treated the press release as a generic text presented to them

in the classroom, without thinking about where the information was coming from, the role of the PRODH in the hearing, or the weight they would assign to this source in forming their conclusions about the issue under investigation. These kinds of considerations are important when learning about social issues, and when encountering different kinds of texts more broadly.

This is one of the classes I worked with in a collaborative project with teachers to explore the potential of inquiry lessons in history and social science courses in a Mexican high school. Inquiry is an instructional approach that hasn't been investigated in this context, nor have the source evaluation practices often embedded within it. This study focuses on how the students, who were mostly new to this type of source evaluation, engaged with it during three inquiry lessons over a semester (two with a contemporary focus and one with a historical focus). Source evaluation was embedded in these lessons, and there were opportunities to practice it as illustrated above, but it was not the focus of the instruction. Therefore, students' source evaluation is a window into their incoming ideas, strengths, and challenges as they took on this practice.

This study will focus on *source evaluation*, defined as the assessment of a source's relevance, usefulness, or trustworthiness for a given purpose, based on features or information about the source (such as its type, origin, author, publisher, purpose) and the source's content. This is related to the term *sourcing*, which emerged from history education, and usually refers to using information about the source (also called meta-information, or second-order information) in order to evaluate and interpret the source (Wineburg, 1991). In contrast, *source evaluation* is a more general term, used in a wider variety of contexts. In this study, framing this practice as *source evaluation* allows for a focus on both historical and contemporary topics (both of which were part of the course in which the study took place). It is also more holistic in that it can

include the content and context of the source itself, as well as other sources, as a basis for evaluation (Strømsø et al., 2013).

Literature Review

Source Evaluation as an Educational Goal

In the field of education, different forms of source evaluation have long been recognized as important skills for students to develop in school. The overarching rationale is that navigating the contemporary world necessitates discernment in the face of an abundance of messages and information of all formats and provenances, which vary in quality and are often conflicting.

Source evaluation is a largely untapped area of work that can serve multiple, inter-related purposes in Mexican history and social science classrooms. Preparing students to evaluate sources aligns with a constructivist paradigm: it positions students as active meaning makers regarding the information they encounter, instead of passive recipients (Van Hover & Hicks, 2017). Source evaluation also aligns with inquiry pedagogies (Grant et al., 2017), since it is integral to the process of investigating questions and building evidence-based conclusions. It can also align with critical pedagogy, in which students learn to recognize that texts and media are not neutral, but play a role in power structures (Cassany, 2006).

There are different ways to frame source evaluation in education. In general reading literacy, as defined by the PISA assessment, readers must go beyond the literal or inferred meaning of texts; they must assess their quality and credibility, reflect on the content and form, and corroborate and handle conflict across texts (OECD, 2019b, p.88). In media literacy (De Abreu et al., 2017) and online civic reasoning (McGrew et al., 2018), source evaluation is about developing the ability to discern which media and online messages can be trusted for given purposes. In critical literacy, source evaluation is about uncovering the ideology and

sociopolitical implications of texts (Tejada & Vargas, 2011). In history education, source evaluation focuses on the *sourcing* heuristic identified in Wineburg's seminal work (1991); that is, considering the information about a historical source's origin in order to adequately evaluate its reliability and interpret it. Sometimes source evaluation is framed in a more encompassing manner. For instance, *Evaluating Sources and Using Evidence* is the third of four dimensions in the inquiry arc described in the C3 Framework, which seeks to orient rigorous instruction in civics, economics, geography and history in the U.S. The inquiry arc culminates with students formulating and communicating their own conclusions after having considered diverse evidence (National Council for the Social Studies, 2013).

A body of research on how novices and experts evaluate different kinds of sources in different contexts backs up source evaluation as an educational goal. This literature has in turn informed research on how students can learn source evaluation skills in educational settings, including history and social studies.

Research on Historical Source Evaluation in Experts, Novices, and Education

Empirical studies of historians' thinking (Shanahan et al., 2011; Wineburg, 1991) have shown that they evaluate the credibility of the sources they approach by noting and considering the implications of the information *about* the source: the genre (i.e., a political speech, a journal entry, an administrative document), the authors' position and purpose, and the context in which they were created. This practice is guided by an epistemic stance that frames history as a process of inquiry and interpretation of the past, building from different pieces of evidence (Maggioni et al., 2009). Historians regard primary sources as excerpts of social interactions in need of interpretation: it's necessary to delve into the purposes, views, social worlds, and contexts of the people who created them in order to better understand those incomplete records of the past.

Novice high school students do not spontaneously engage in historical *sourcing* of documents in this way (Britt & Anglinksas, 2002; Stahl et al., 1996; Wineburg, 1991). However, certain task designs can guide students to source; for instance, when students are presented with multiple documents and asked to write argument based-essays (Wiley & Voss, 1996, 1999). History education researchers have operationalized the sourcing heuristic for the classroom in the context of document-based lessons where students source two or more documents, and then draw conclusions from them about a historical question. This research has shown that diverse students can learn and adopt sourcing through explicit strategy instruction and scaffolding, along with opportunities to practice it (Britt & Aglinskas, 2002; De La Paz, 2005; Goldberg et al., 2008; Nokes et al., 2007; Reisman, 2012a, 2012b; Young & Leinhardt 1998).

It is important to note that in history education, sourcing (along with other heuristics like corroborating and contextualizing) is not an end in itself. It is only one aspect of historical thinking that contributes to the development of evidence-based historical interpretation and understandings (e.g., van Drie & van Boxtel, 2008). Yet, sourcing can serve as a bridge for students to engage in such historical thinking (Nokes et al., 2007; Wineburg & Reisman, 2015).

Research on Contemporary Source Evaluation in Experts, Novices, and Education

Research in other areas beyond history shows that expert readers in different areas notice and take into account the information about the sources they're working with and evaluate them in different ways. For instance, Lundeberg (1987) found that, when reading court cases, law professors paid attention to elements such as the type of case, the parties involved, and the name of the judge to a much greater extent than law students. Bazerman (1985) found that physicists actively used personal schema -including their maps of the field, knowledge of the phenomena, and perceptions about most promising lines of work and methods- when scanning indexes,

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abstracts, and doing computer searches to select relevant literature. Wyat et al. (1993) found that social scientists monitored the credibility of specialized articles as they read them.

When it comes to non-experts, research has shown relationships between their source evaluation, their text comprehension, and their learning skills. Undergraduate students who perform better in learning activities regarding scientific and contemporary topics have also been found to note and evaluate source information to a greater degree than their peers (Goldman et al., 2012; Wiley et al., 2009). Moreover, the level to which undergraduate students notice and evaluate sources in contemporary and scientific topics is related to how active they are in making predictions, interpretations and evaluations (Bråten et al., 2013; Sanchez et al., 2006; Strømsø et al., 2013). In Strømsø et al., (2010), the extent to which students trusted reliable sources was found to be predictive of students' comprehension. Bråten et al. (2011) suggest a different relationship: participants low in topic knowledge (about climate change) didn't differentiate between relevant and irrelevant criteria for source evaluation and were more likely to trust less trustworthy sources.

Students' engagement and skill with contemporary source evaluation can vary across different tasks, contexts, and types of sources. A series of Norwegian studies with undergraduate students found a range of existing skills: in Strømsø at al. (2013), documents with the strongest, most opposing stances on a controversy elicited the most sourcing from students. In Bråten et al. (2011), participants considered textbook and official documents more trustworthy than information from newspapers and a commercial agent on climate change; they placed more emphasis on content as a criterion for evaluating sources over others like publisher, author, or date of publication; and they emphasized different criteria for different types of sources. McGrew et al. (2018) found that middle school, high school, and college students in the U.S. -

often deemed 'digital natives'- largely lacked key skills to evaluate online sources. An overarching takeaway from these studies is that there is a range of approaches and skill levels in source evaluation among students; and that, within the sampled groups, there were features of novice engagement as well as more skilled engagement.

Researchers and educators internationally have developed curriculum and interventions to help students develop their contemporary source evaluation skills. Several documented interventions have been effective (Sanchez et al., 2006; Stadtler & Bromme, 2007, 2008). Kahne and Bowyer (2017) found that U.S. youths' exposure to media literacy education improved their evaluation of online posts. Gerjets et al. (2011) found that the mere presence of certain prompts and stimuli can prompt evaluation of web sources.

Research showing the distinctive features of expert source evaluation in different social fields has informed ways in which students can also engage with these fields authentically through source evaluation. Research on students' skills, challenges, and instructional models for source evaluation provides a robust basis for educational approaches. This study begins to explore how Mexican students can take up source evaluation in history and social science.

Relationship Between Source Evaluation in Historical as Compared to Contemporary Sources

The relationship between historical and contemporary source evaluation is not as straightforward as often thought. In their 2007 study on historical heuristics, Nokes and colleagues stated that, in a democratic society during the information age, everyone needs the heuristics of a historian, assuming that these heuristics could transfer to other domains. This assumption appeared to be confirmed by the first large-scale, six-month intervention study with historical strategy instruction and Document-Based Lessons (Reisman, 2012a). Students

completed a multiple choice post test measuring the degree to which historical sourcing, among other historical reading strategies, would transfer to contemporary issues and sources after the interventions (for instance, there was an item about global warming designed to measure students' attention to sourcing). The study found significant effects for sourcing, but it did not delve into the nature or mechanism of this transfer.

Wineburg and McGrew's (2019) study painted a different picture: they sampled the skills of historians, professional fact checkers, and undergraduates in evaluating online sources. They found that, out of these groups, only the professional fact checkers were able to effectively investigate and assess the credibility of online sources. They did this through "lateral reading," in which they opened additional browser tabs to find out who was really behind texts that appeared to be backed by experts. In contrast, many students relied on how well the content matched the question or on superficial criteria for evaluation, while historians attempted disciplinary moves - such as searching for primary sources - which were inadequate in this context. These studies suggest that historical source evaluation does not automatically translate to other domains.

There may also be differences in how novices evaluate historical and contemporary sources; for instance, Bråten et al. (2009) found that they paid more attention to the author as a criterion in evaluating historical sources as compared with scientific ones.

Many aspects of the relationship between historical and contemporary source evaluation - and its educational implications - remain to be explored. To my knowledge, there aren't studies providing additional insights into how novice students engage with evaluation of contemporary sources as compared to historical sources: this study sets out to do so.

Research Goals and Questions

In Mexico, there hasn't been much work around inquiry-based history or social science, nor around source evaluation - either in these subject areas or in general literacy. The PLANEA Language and Communication national test is telling in this regard: even at the highest levels of attainment, students are not expected to evaluate sources. This contrasts with the PISA literacy test's highest levels, which do entail source evaluation. Only 1% of Mexican students attain these levels (see Table 3.1 below).

Table 3.1. Source evaluation in PLANEA's and PISA's highest levels

Test	PLANEA 9th grade	PLANEA 12th grade	PISA (9th or 10th grade)
Highest Levels	Outstanding Mastery	Outstanding Mastery	Levels 5 and 6
Description	Students are able to analyze and rank arguments in order to evaluate implicit and explicit information from different parts of complex literary, informational, and argumentative texts.	Students are able to select and organize relevant information from an argumentative text; they identify the author's perspective, they interpret information from argumentative texts (such as critical reviews and opinion pieces) and they infer the paraphrasis of an expository text (such as a dissemination article).	Students comprehend lengthy texts, deal with concepts that are abstract or counterintuitive, and establish distinctions between fact and opinion, based on implicit cues pertaining to the content or source of the information.
Elements of source evaluation	N/A	N/A	At Level 6, students can "compare and contrast information across texts (...) through inferences about the sources of information, their explicit or vested interests, and other cues as to the validity of the information" At Level 5, students can "assess neutrality and bias based on explicit or implicit cues pertaining to both the content and/or source of the information", and "draw conclusions regarding the reliability of the claims or conclusions offered in a piece of text."

| % of students at these levels | 8.3% | 9.2% | 1% |

*Built with information from OECD (2019a), OECD (2019b), SEP (2017a), SEP (2017b).

Source evaluation is an important educational goal in itself, and it can also be pivotal in transforming high school teaching and learning. It can be a bridge to historical understanding, to making sense of contemporary issues, and to reading critically. It is also an essential component of inquiry. Moreover, introducing it in the classroom can constitute a significant shift towards a more constructivist and authentic classroom pedagogy. As Reisman (2012a) puts it, in classrooms where lecture used to be the norm,

> [The introduction of even one source] effectively shifted the locus of knowledge away from the textbook to the evidentiary record. (...) Even in the absence of explicit feedback on the close reading, contextualization, and corroboration, we considered the practice of sourcing a single document to be a significant departure from traditional history instruction, in that it positioned students as arbiters of others' truth claims (Reisman, 2012a, p. 97).

The PISA test seems to recognize the importance of source evaluation, yet its results are not too enlightening about Mexican high school students' qualitative thinking about it. Gaining insight into this thinking is an important starting point if I and other Mexican educators intend to incorporate it and leverage it to support students' growth in this area.

This study sets out to investigate: 1) What strengths and challenges in source evaluation do Mexican high school students bring to history and social science inquiry lessons with multiple sources? 2) Are there differences between how students evaluate contemporary sources vs. historical sources? Drawing on the findings, the discussion section will also consider what

teachers can build on, and build towards, when working with students' initial source evaluation in inquiry-oriented history and social science lessons.

Context and Participants

In Mexico, the high school level (called *Educación Media Superior*) only became obligatory in 2011. Since then, there have been efforts to increase its reach and the percentage of youth enrolled, which has gone from 46.8% in 2012 to 63.6% in 2020. Both access and quality vary widely across contexts (Martínez & de Ibarrola, 2021). In contrast to the *Educación Básica* level (K-9) which is more homogenous and centrally managed, in *Media Superior* there are splintering subsystems and types. 62.6% of students attend general high schools, while 37.4% attend technological or technical ones. Around 2/3 of general high schools' graduates, and 1/2 of technical and technological high school graduates go on to pursue higher education; for the rest, high school is their final degree (Poy, 2018, May 31). 81.9% of students attended public high schools, while 18.1% attend private ones (SEP, 2020). Most high school teachers in Mexico have at least a bachelor's degree, either in specific disciplines (i.e., History, Biology, Administration) or in Teaching. However, additional degrees are increasingly incentivized. (Reyes et al., 2019).

As part of a larger Design-Based Research project, I partnered with four high school teachers to design and implement a series of lessons in order to explore the potential of a history and social science inquiry approach in their Mexican high school. This study focuses on one class section taught by one of the teachers, and the source evaluation her students engaged in as part of three inquiry-based lessons throughout a semester. The participants in this study were the teacher, Carla (pseudonym) and the 33 students -19 male, 14 female; mostly 17 and 18 years old-who submitted work in these lessons (a few additional students attended the sessions but did not submit work).

The school is a large public high school in a municipality within a large urban area in Western Mexico. The specific locality is the largest in the municipality, and its administrative center. Commerce makes up around half of the economic units in the municipality. It is often described by dwellers and neighbors from other municipalities as having lower levels of income, security, development, and education as compared to other parts of the urban area. According to official data, 37.5% of the population lives in "multidimensional poverty."

The school in this study was established in 1989 as part of an emerging network of high schools run by the state's main public university. It currently serves over 4,000 students. The following table with 2021 PLANEA test results (Table 3.2) can help situate the school's academic performance. As compared to other schools in this network, students at this one are concentrated at Levels I, II, and III in the PLANEA Communication tests:

Table 3.2. PLANEA Communication test results

Percentage of students at each level	Level I (lowest)	Level II	Level III	Level IV (highest)
School in this study	23.5%	28.8%	39.2%	8.5%
Median for high school network	33%	19.2%	25.3%	22.5%

Students at this school can enroll in either technical modalities that culminate in work certifications, or in a general modality more geared to general academic preparation for university: the class in this study was part of the general modality.

Materials and Methods

Author's Positionality and Role

I came into this work as a Mexican educational researcher pursuing her PhD at a research university in the United States. The teachers in this study and I partnered over common interests: I wanted a school site where teachers would be willing to try out an inquiry approach to disciplinary literacy in history and social science; the teachers wanted to infuse literacy in their subject areas and were eager to participate in research and learn a new approach in the process. We underwent a 4-month preparation stage, in which I facilitated teachers' orientation to the approach and we co-designed lessons; as well as a 5-month implementation stage in which they taught 2 or 3 inquiry lessons and reflected on them. Throughout the project I acted as a curriculum developer, a teacher preparation and reflection facilitator, and a researcher observing class sessions and collecting data (although I also offered brief input on a few occasions during class, and I appeared in demonstrative videos meant to support students' source evaluation). As a Mexican with a background working with public schools in Mexico (and a plan to continue doing so), I felt fluent and invested in the context.

Instructional Context

For this study on source evaluation, I selected the class section that had the most opportunities for source evaluation across three inquiry lessons throughout a semester. It was a 5th semester *Global Citizenship* course. According to the official course description, its goal is for students to "self-identify as an active and responsible global citizen through the understanding of historical and contemporary events which have shaped the student's world." The teacher, Carla, had 13 years of teaching experience; 10 of them at this high school. She had an undergraduate degree in History, and she completed a masters in Literacy Studies at the time of the study. Carla was interested in promoting literacy across the curriculum, especially critical literacy (for instance, she wanted students to learn to read "behind the lines," unraveling the

ideological, political, and contextual implications of different texts and media). Inquiry and work

with sources were new to her as history and social science pedagogies, but she was glad to try

them out because she thought they could be conducive to her goals. Source evaluation was also

new to the students, aside from a brief overview on which kinds of sources to trust, as part of

their initial high school orientation two years before. The class met remotely for most of the

semester due to COVID-19. The first two lessons in this study were remote, and the third one

was in-person. Table 3.3 below shows the focus, timing, format and duration of each lesson:

Table 3.3. Lessons embedded in the Global Citizenship course

	Lesson 1	**Lesson 2**	**Lesson 3**
Inquiry question guiding the lesson	How powerful are the richest countries in globally impactful decisions?	What did French revolutionaries want in the beginning?	Are we Mexicans global citizens regarding Central American migrants?
Month when the lesson took place	September	October	November
Format of the lesson	Remote	Remote	In-person
Sessions of the lesson	• 120-minute session • 90-minute session	• 120-minute session	• 120-minute session • 60-minute session

Source evaluation was only one aspect of each of these lessons. Each lesson started with

background building, in which students connected with prior knowledge and learned more about

the events and concepts involved in the inquiry lesson. Next, they analyzed a given set of

sources, and completed graphic organizers with their evaluation and analysis of each source.

Lastly, they wrote short essays in response to the inquiry questions. These lessons drew from the *Read.Inquire.Write.* model (Alston et al., 2021; Monte-Sano et al., 2019).

Although the lessons were designed to include more substantial source evaluation instruction and practice, this was significantly reduced in practice. The lesson materials included a set of prepared sources (with relevant source information and relevant content excerpts), graphic organizers designed to support the evaluation of the sources, and videos modeling how to evaluate them. In the implementation, each lesson followed a similar pattern regarding source evaluation: students had an initial opportunity to read, evaluate and analyze sources on their own, either in class or as homework, sometimes with the support of the modeling video. The videos showed me working on a copy of the source, demonstrating and thinking aloud as I noted selected elements from the headnote and the content, using prompts from an adapted version of the Bookmark tool (*Read.Inquire.Write.* team, University of Michigan, 2019) - which was available to students, but they rarely used -, and then making notes on a graphic organizer about the source's usefulness and reliability, as well as how the source informed (or not) the answer to the inquiry question.

Each source was prepared for students (Wineburg & Martin, 2009) with selected excerpts, attribution information, and additional information about the source that students could consider when evaluating it (i.e., the context of its creation, information about the author and/or publisher). See the example in Figure 1 below: the inquiry question is in the top line, followed by the source's title (Declaration of the Rights of Man and Citizen). The top gray rectangle is a headnote with information about the context, creators, and impact of the Declaration, and the bottom gray rectangle has attribution information and a link to a full version in Spanish. Including these details in the prepared source creates the opportunity for students to evaluate the

author and context of the source by providing information *about* the source. The middle section

consists of selected excerpts of the Declaration (other sources were also slightly adapted for

readability). The entirety of the source is not included because it would make it less appealing

and accessible for students to read, and it would make it harder and more time-consuming for

them to consider the sections most relevant to the inquiry at hand, thus diffusing the focus of the

lesson. All the sources in both the historical and the contemporary lessons followed a similar

format.

Figure 3.1. Example of a prepared source

¿Qué querían las y los revolucionarios franceses en un inicio?

Declaración de los Derechos del Hombre y del Ciudadano

Encabezado: Como parte de sus trabajos para crear una nueva constitución para Francia, La Asamblea Nacional desarrolló y finalmente adoptó esta Declaración en agosto de 1789. Los borradores los realizaron principalmente el Marqués de Lafayette, el Abad Sieyès y el Conde de Mirabeau, con asesoría de Thomas Jefferson (autor de la Declaración de Independencia de Estados Unidos en 1776). La Declaración contiene 17 artículos. Sirvió de base para la constitución francesa y para muchas otras en el mundo (incluyendo la mexicana), así como para la Declaración Universal de los Derechos Humanos, actualmente ratificada por más de 190 países.

Los Representantes del Pueblo Francés, constituidos en Asamblea Nacional, considerando que la ignorancia, el olvido o el menosprecio de los derechos del Hombre son las únicas causas de las calamidades públicas y de la corrupción de los Gobiernos, han resuelto exponer, en una Declaración solemne, los derechos naturales, inalienables y sagrados del Hombre, para que esta declaración, constantemente presente para todos los Miembros del cuerpo social, les recuerde sin cesar sus derechos y sus deberes; para que los actos del poder legislativo y del poder ejecutivo, al poder cotejarse en todo momento con la finalidad de cualquier institución política, sean más respetados y para que las reclamaciones de los ciudadanos, fundadas desde ahora en principios simples e indiscutibles, redunden siempre en beneficio del mantenimiento de la Constitución y de la felicidad de todos. En consecuencia, la Asamblea Nacional reconoce y declara, en presencia del Ser Supremo y bajo sus auspicios, los siguientes derechos del Hombre y del Ciudadano:

Artículo 1 - Los hombres nacen y permanecen libres e iguales en derechos. Las distinciones sociales sólo pueden fundarse en la utilidad común.

Artículo 2 - La finalidad de cualquier asociación política es la protección de los derechos naturales e imprescriptibles del Hombre. Tales derechos son la libertad, la propiedad, la seguridad y la resistencia a la opresión.

Artículo 3 - El principio de toda Soberanía reside esencialmente en la Nación. Ningún cuerpo ni ningún individuo pueden ejercer autoridad alguna que no emane expresamente de ella.

Artículo 10 - Nadie debe ser incomodado por sus opiniones, inclusive religiosas, siempre y cuando su manifestación no perturbe el orden público establecido por la Ley.

Atribución: Fragmentos de la Declaración de los Derechos del Hombre y del Ciudadano. Asamblea Nacional, agosto de 1789. Texto completo en español disponible aquí.

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All of the sources within each set were selected because they were relevant and reliable

for the inquiry question in different, somewhat complementary ways. All of them also have

reasons why they could be considered more and less useful, relevant, and trustworthy. This

differs from other lesson designs that purposefully included sources that are less/not useful or reliable to investigate the questions at hand (i.e., fictional texts in the case of history, or commercial ads in the case of contemporary issues) in order to make the need for source evaluation more salient (see, for example, Wineburg, 1991).

Students were asked to take notes of their evaluation and analysis of each source in a Graphic Organizer (hereafter referred to as GO), represented in Figure 3.2.

Figure 3.2. Example of the graphic organizer used for source evaluation and analysis

What did the French revolutionaries want in the beginning?			
Individual sources (Enter each source's title)	**How useful and trustworthy** is this source for answering the inquiry question?	**What does this source tell us** about the inquiry question? (That is: What does each source make you think about what the French revolutionaries wanted initially?) Include a relevant quote from the text.	**What DOESN'T this source tell us** about the inquiry question? What else would you like to know?
As a set...	**How useful and trustworthy** are these sources for answering the inquiry question?	From these sources, **What did the French revolutionaries want in the beginning? Why?**	**What DON'T these sources tell us** about the inquiry question? What else would you like to know?

The second column is the one focused on source evaluation: after considering the information about each source, as well as its content, students were to gauge its relevance and reliability for the inquiry question and make notes on this column. Sometimes there were also elements of source evaluation in the third and fourth columns.

After this initial independent round of work, the teacher facilitated a whole class discussion in which she prompted students' responses. She occasionally provided additional questions, probed their thinking deeper, or proved some feedback; but she mostly only facilitated their sharing. Lastly, she asked students to revisit the sources more carefully and complete the analysis on their own, and turn in their graphic organizers as part of their end product for the lesson (along with the notes from the background building activities and their writing in response to the inquiry question). Table 3.4 below describes the source evaluation activities in each lesson more in detail, as well as the set of sources in each one.

Table 3.4. Source evaluation activities in each lesson

Lesson	Lesson 1	Lesson 2	Lesson 3
Inquiry question	How powerful are the richest countries in globally impactful decisions?	What did French revolutionaries want in the beginning?	Do we Mexicans act like global citizens regarding Central American migrants?
Source set	• *2021 news story in Mexican newspaper El Economista (with information from AFP) about an upcoming meeting of the G7* - The story says Boris Johnson announced the G7 would soon meet to discuss what to do in the face of the United States'	• *Joseph Sieyès 1789 pamphlet "What is the Third State?"* - Denounces that the Third State had no power despite generating the most value, and demands that this changes. • *Tennis Court Oath, 1789* - The General	• *2021 Infographic on an upcoming hearing before the Inter-American Commission on Human Rights, created by one of the participating civic organizations* - Explains that civic organizations will denounce the Mexican

mismanagement of their retreat in Afghanistan.
- *World Health Organization's 2021 story about the COVAX mechanism to distribute Covid vaccines -* Describes the arrival of vaccines to the Dominican Republic and the Americas, and which countries donate vaccines.
- *Wikipedia entry on the International Monetary Fund -* Describes the organization's origin, its leadership by rich countries, and its role in poorer nations.

BBC News article on Biden's climate summit in 2021 - Summarizes statements by leaders from the United States, China, Brazil, and Mexico.

Assembly vows to keep on meeting until a new constitution is established.
- *Excerpts of the Declaration of the Rights of Man and Citizen, 1789 -* Includes articles on freedom, equality, the sovereignty of the people, and freedom of speech.

Petition from the Women to the National Assembly, 1789 - Women denounced oppression and demanded social and political equality in the new republic.

state' violations of migrants' human rights during the hearing.
- *Press release after the hearing by another one of the participating civic organizations -* Recaps the organizations' complaints during the hearing.
- *Video footage from the hearing, published in a governmental YouTube channel -* An official from the government's Mexican Commission for Refugee Aid presents the governments' actions to aid migrants during the pandemic.
- *2019 Mexican newspaper (El Universal) survey about citizens' attitudes towards migrants -* The excerpted survey question is about what the Mexican government should do about migrants.

2021 local news site (UDG TV) story about two local organizations in support of migrants, and an event they organized - The events' goal was to garner kits for migrants and to call for the public's solidarity towards them.

| **Source evaluation activities** | (Remote)

Day 1. After background building activities, the teacher tells students about the importance of the strategy they will use -*"Crítica y análisis de fuentes"-,* and the | (Remote)

Day 1. (Single day)

After background building activities, the teacher plays the video with the model analysis | (In-person)

Day 1. After background building activities, and without further instruction, the teacher asks students to begin analyzing the sources during class. Many students |

video they will watch to see it modeled (around 5 minutes). Students are assigned the video (with the news story about the G7) and the analysis of all the sources for homework.

Day 2. As it seems like most of the students didn't complete the analysis on their own, the teacher asks students to share their responses so that the group can build a collective GO. She prompts students to share responses, but she doesn't guide them further (she is getting to know the sources along with the students).

She asks them to work on it further as homework individually. They review the writing task and an example text (with another topic), and the writing is also left for homework. Many students draw elements from the graphic organizer co-constructed in class for their own.

of one of the sources (with the Sieyès pamphlet).

Then, she gives students time during class to analyze another source of their choice, in teams (10 minutes). For the rest of class (14 mins), they briefly shared the analysis of two of the sources (the Tennis Court Oath and the Women's Petition), with prompting from the teacher, but no further guidance or feedback.

Students are assigned to finish the analysis of at least two sources of their choice and the writing for homework

talk to each other while they work, and the teacher circulates supporting them (15 mins). Students are assigned to complete the analysis for homework.

Day 2. The teacher facilitates a co-construction of a graphic organizer with students' contributions (around 30 mins). As part of their remarks, students provide some elements of source evaluation, but the teacher doesn't prompt them or push them further.

Students are assigned to dig deeper into the analysis and complete it for homework: "Ok, source analysis has to continue. Try to explore, reflect a bit more at home. But we have to move on because we only have 20 minutes left."

During class, students are asked to come up with their stances regarding the inquiry question. Then the teacher presents sentence stems they can use, as well as the elements required in their writing. For the rest of class (22 mins), students work on their writing, with the teacher circulating to support them.

Students are assigned to complete the writing, along with the source evaluation and analysis, for homework.

Data Sources

Data for this study included classroom video, transcriptions of those videos, and students' GOs. Table 3.5 below describes these data sources further. (Note that, while most students completed GOs individually, some of them completed them in teams - see bottom row.)

Table 3.5. Data sources

	Lesson 1	**Lesson 2**	**Lesson 3**
Classroom observation video and transcripts	(Remote) • 120 minute session (34 students) • 90 minute session (30 students)	(Remote) • 120 minute session (34 students)	(In-person) • 120 minute session (36 students) • 60 minute session (36 students)
Students' graphic organizers	23 graphic organizers (20 by individual students; 3 by groups of 2 students. Work by 26 students total.)	17 graphic organizers (10 by individual students; 7 by groups of 2-5 students. Work by 33 students total)	26 graphic organizers (23 by individual students; 3 by groups of 2-3 students. Work by 31 students total)

Case Study Methodology

This paper presents a case study (Yin, 2012) stemming from a larger, Design-Based Research study (Penuel et al., 2011). Case studies allow for an in-depth inquiry of variables of interest *along* with the contextual conditions in which they unfolded. They allow for rich descriptions of explanations of teaching and learning in particular educational interventions. In contrast to methods that rely on the representativity of their data to generalize to a population, case studies seek to "establish logic that might be applicable to other situations" (Yin, 2012, p. 148). The findings could be indicative of how students with relevant similarities in terms of background and educational context might engage with source evaluation as beginners.

This will be a single-case study of students' source evaluation throughout their Global Citizenship course, with the three distinct lessons serving as embedded units of analysis.

What Is This a Case of?

These three lessons constitute a case of a group of Mexican high school students who are novices when it comes to source evaluation, and who engage in it in the context of inquiry lessons, with some prompting and scaffolds, but with little instruction or feedback. Moreover, the sub-units of this case (the three different lessons) provide potential comparisons across successive opportunities to practice, and across two different domains: contemporary sources in contemporary inquiries, and historical sources in a historical inquiry.

The source evaluation took place as part of inquiry lessons during an actual high school course, and not under controlled conditions. Thus, source evaluation wasn't studied as a spontaneous practice (as in Strømsø et al., 2013) nor elicited through distinct tasks in order to measure distinct skills (such as the ability to identify information about the source, or the ability to rank sources by reliability and helpfulness, as in Nokes et al., 2007). It is also different from Resiman's (2012a, 2012b) and other studies in which the learning of source evaluation was guided by a full cognitive apprenticeship model over a period of time.

Here, source evaluation was minimally taught, and prompted in a general and open-ended way. What emerges is indicative of a range of issues and ways of thinking that students bring when asked to consider the sources' usefulness and trustworthiness for the questions they're investigating in an inquiry lesson. Based on the literature, I anticipated finding features of competence as well as novice thinking in students' evaluation of sources. I also anticipated variation based on scaffolding, instruction, sources, and especially, the contemporary or historical nature of the source and topics. This case study was meant to illustrate how these elements played out, and illuminate finer points regarding the challenges, opportunities, and pedagogical orientations for work with source evaluation in contexts akin to this history and social science course in a Mexican high school.

Data Analysis

As I set out to start analysis, I kept in mind the range of students' source evaluation

moves that have been specified in empirical studies documenting students' work (studies that

build on Wineburg's (1991) investigation of historian's heuristics and how they compare to

students' thinking). Britt and Aglinskas' study (2002) was an important reference in terms of

novice's evaluation moves, because the authors had categorized nearly 1,500 justifications that

undergraduate students had issued when asked to rank a set of sources based on usefulness and

trustworthiness. They found that the students had referred to the author's position, motivation,

participation, and expertise, as well as the date of the document, and document type. Bråten et al.

(2011), observed additional criteria used by their participants, including the publisher, as well as

the content of the source itself (they actually found that participants placed more emphasis on the

content than on information about the source when evaluating it).

I also considered potential source evaluation moves specified in diverse instructional

materials that support students as they develop this practice. The Stanford History Education

Group's *Reading Like a Historian* has a sourcing poster - grounded in Wineburg's (1991)

foundational work in identifying and specifying the sourcing heuristic - prompting students to

consider who wrote a source, what is the author's perspective, why it was written, when it was

written, where it was written and whether it is reliable. The Bookmark Tool (*Read.Inquire.Write.*

team, University of Michigan, 2019), designed to support reading and reasoning about historical

and contemporary sources in inquiry lessons, prompts students to locate and consider

information about who created the source (including whether they were in a position to know

about the issue, their point of view, and points of view not included), when and where it was

created, what type it is, and why or for whom it was created, and how all of this can make the

source more or less reliable for the inquiry question. The aforementioned Stanford History Education Group also has Civic Online Reasoning materials which prompt students to locate a website's sponsoring organization, think whether they are already familiar with it, and learning about it through lateral reading (that is, researching the organization in external sources).

These references constituted a range of potential source evaluation moves and shaped my thinking as I prepared to analyze student work. In order to investigate which of these (and potentially, which other ones) had actually been used by my participants, I printed, read, and open-coded the transcripts from classroom observations and students' submitted graphic organizers with their source evaluation and analysis. In the first few passes of the data, I engaged in inductive coding (Miles et al., 2014) of the moves and patterns students engaged in as they evaluated sources within and across the lessons, which resulted in five main categories: evaluations based on the availability of source information and references; evaluations based on the author, origin, or publication; evaluations based on date; evaluations based on the type of source; and evaluations based on the content.

In a subsequent pass of my data, I systematically coded all the student work using these main categories. This was a low-inference process, since it only entailed coding each instance under one or several of the predefined categories whenever students' evaluations mentioned something related to them; i.e., the author or publisher, the date, or the type of source. I also noted additional nuances within each category. These nuances were sometimes informed by the range of moves specified in the literature and the instructional materials (e.g., I noted that in their evaluations based on author, origin, or publication, students rarely mentioned potential bias). Other times, the nuances emerged from the data itself (e.g., when students evaluated the sources based on the availability of source information, they sometimes praised the presence of such

information, while other times they criticized its absence). I tallied students' source evaluation moves in and across lessons, and created a data array shown in Table 7 (Miles & Huberman, 1994). The data array served as the basis to organize relevant explanations, which were constructed in triangulation with the full coded and annotated data set of student work, the curriculum materials, and the transcripts from classroom observations. I translated the excerpts selected for this manuscript from Spanish to English.

Limitations

As an activity embedded in two contemporary and one historical inquiry lessons in their Global Citizenship course, students were asked to make notes on each source's usefulness and trustworthiness for the inquiry question at hand. Using students' succinct graphic organizers as a main source of data entails a limitation in that students' thinking may not be fully represented in their written work. Follow-up interviews or think-aloud protocols could have helped complete the picture. Given this limitation, it is important to be cognizant of what interpretations are clearly grounded in the data and which are inferred, as well as alternative explanations (Yin, 2012). An additional limitation of this study lies in that it doesn't account for certain factors the literature has found are related to student's performance in source evaluation, such as differing learning profiles, reading comprehension, active reading, subject knowledge, or motivation (Bråten et al., 2013; Bråten & Strømsø, 2018; Goldman et al., 2012; Sanchez et al., 2006; Strømsø et al. 2009; Strømsø et al. 2013; Wiley et al., 2009).

<div align="center">

Results

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Table 3.6 shows the categories (and some subcategories) of source evaluation moves by the students in this study, and a tally of how many of the GOs in each lesson included each move

at least once (for at least one of the sources). All of the GOs included multiple moves; often,

multiple moves regarding a single source.

Table 3.6. Tally of graphic organizers that used a source evaluation move at least once

Move	Lesson 1, Contemporary (23 graphic organizers)		Lesson 2, Historical (17 graphic organizers)		Lesson 3, Contemporary (26 graphic organizers)	
Source Evaluations based on:	Fraction	%	Fraction	%	Fraction	%
Availability of Source Information and References						
Praise that there is source information, in-text references, or links to original documents	10 / 23	44%	10 / 17	59%	6 / 26	23%
Criticize that sources don't include source information or references	16 / 23	70%	5 / 17	29%	4 / 26	15%
Source Information						
Evaluate based on author, origin, publication	23 / 23	100%	8 / 17	47%	21 / 26	81%
Evaluate based on date	16 / 23	70%	9 / 17	53%	16 / 26	62%
Evaluate based on type of source	4 / 23	17%	9 / 17	53%	16 / 26	62%
Content						
Evaluate based on content, all categories	22 / 23	96%	13 / 17	77%	26 / 26	100%
Evaluate based on substance of content	20 / 23	87%	11 / 17	65%	26 / 26	100%

Evaluate based on superficial or formal aspects	14 / 23	61%	0 / 17	0%	2 / 26	8%
Criticize that source doesn't address inquiry question completely / directly	12 / 23	52%	5 / 17	29%	3 / 26	12%
Address complementarity of sources	2 / 23	9%	5 / 17	29%	7 / 26	27%

The following sections describe how students enacted source evaluation moves in each of the three lessons and suggest relevant explanations.

Source Evaluations Based on Availability of References and Sources of Information

In some of the GOs in each lesson (44%, 59%, and 23% respectively), students interpreted the mere presence of source information (including in-text references) as a sign of trustworthiness. Unlike the other source evaluation moves, this one was never modeled for them or prompted. The curriculum design assumed the need to include complete source information in every prepared source: students were expected to evaluate on the basis of that information, not on the mere *presence* of that information. Yet, they repeatedly did.

For instance, in Lesson 1, when saying what made the news story about Biden's climate summit trustworthy, Student 5 said that it "reports the place and some of the participants in the meeting." Regarding in-text references, Student 2 wrote that the news story was trustworthy because it "includes quotes or references about what each president said." Student 11 offered the following overall assessment of the source set in Lesson 1: "All four sources seem trustworthy given that they are recent, *and some of them say where they got those arguments and information*, in addition to the prestige of the sources…." It's not clear what prompted students to do it, but many of them valued the presence of source information, in-text references, and links to original documents. The lower percentage in the third lesson could be due to them

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having come to expect these features in all of the sources, and not something noteworthy on which to base their evaluations.

In a different evaluation move, most students in Lessons 1, and some in Lessons 2 and 3, deemed that at least one of the sources wasn't reliable because it was lacking some source information. Similarly, in the column in the GO that asked students what the sources *didn't* tell them, or what else they would like to know, many of them wanted to know things about the source information. These concerns ranged from more legitimate ones (i.e., Student 5 criticized that the WHO article didn't specify the organization's activities or goals), to others that seemed to stem from misunderstandings or oversights. For instance, several GOs criticized that the G7 news article didn't "include references" (Student 17), or lacked "references from where facts are taken" (Student 37), or didn't have "sources of information" (Student 30). This contrasted with a few students who indicated that the international news agency AFP was the source of information, and accurately gauged that this contributed to the news story's reliability. In the historical lesson, some students deemed that the author of the sources (Women's Petition; Declaration of Human Rights) was not specified - it is possible that they were expecting the names of individual authors, rather than collective actors such as the "women" or the "National Assembly."

In sum, some students were, at a baseline, already aware of the value of having source information, and/or wary of sources that lack it (although this doesn't necessarily mean they would hold everyday media to the same standard). To the extent that students already come with this awareness, it's a strength to build on. For instance, they could work with specific genres to identify source information that may not be conspicuous (i.e., institutional or organizational authors vs. individual ones), and discuss whether the available source information is enough to

assess it for the purposes at hand. To the extent that students do not bring this baseline awareness of the relevance of source information, it seems like an important prerequisite for source evaluation.

Source Evaluations Based on Source Information

All of the GOs in the contemporary lessons, and most in the historical lesson, included at least one evaluation based on source information (author, publication, date, type of source, etc.). This practice was briefly modeled to students through a video in the first two lessons. In all three, after students had had time to work with the sources on their own, there were whole group share outs that included this move (without further guidance from the teacher). For instance, in Lesson 1, the teacher asked a student to share what she'd written about the usefulness and trustworthiness of the G7 news story. She replied:

> *I wrote that it [the G7 news story] was acceptable because it was a news story - well, the truth is I took part of what teacher [author] wrote in the video, because it was a recent news story, and also because it was published in the magazine El Economista - newspaper, sorry. It had the news from AFP, and it is very useful, because it talked precisely about the seven richest countries… (Student 20)*

Here, the student covered several grounds for reliability: the type of source (news story in a newspaper); the specific publication (El Economista), the agency that provided the information (AFP), and the recent date of publication. She also mentioned the content as part of the reason this source is useful (the next section will focus on students' treatment of content as evaluation criteria). I will now examine how students thought about the different aspects of source information:

Source Evaluations Based on Author/Origin/Publication

I will discuss both contemporary lessons first. In Lesson 1 (the inquiry on the power of the richest countries), students frequently gave a minimalistic evaluation of the authors or publications, merely naming them or stating that they were well known, important, had a good reputation, or simply that they were trustworthy. Some students elaborated a little more on why they were so. For instance, one wrote that the BBC was "the largest broadcaster in the UK and the world" (Student 21); while another wrote that the information for the G7 news story came from a "very important agency internationally (AFP)" (Student 39). Both pieces of information were included in the prepared sources. As for negative evaluations, most students deemed that Wikipedia was not trustworthy, because anyone can edit it. A separate section will consider how students thought about Wikipedia specifically. Many students also wrote that the story on the World Health Organization's story could be unreliable because it was published by the organization itself (this potential source of bias was hinted at by the author during a whole class debrief).

In Lesson 3 (the inquiry on Central American migration) students gave a larger range of rationales for their evaluations on the basis of author, origin, or publication. For instance, many deemed that the infographic and the press release were trustworthy because they were done by the organizations dedicated to defending the rights of migrants, or the organizations who were involved in the hearing about the government's human rights violations (although none of the students considered that this could also be a source of bias.)

In both contemporary investigations, students' GOs included at least one evaluation on the basis of authorship, origin, or publication much more often than in the historical one (100% and 81% for the contemporary lessons; 47% for the historical one). Expected evaluations in the historical lesson might have said that the authors - Joseph Sieyès, the General Assembly, or the

women who wrote the petition - were well positioned to speak to what French revolutionaries wanted in the beginning, since they *were* those revolutionaries. Indeed, one student wrote: "The petition doesn't have an official author who backs the information, but the text says it was also presented in 1789, this time entirely by women. Again, its informational function is sufficiently useful." (Student 34). So even if this student seemed to expect an "official author," the rest of his graphic organizer shows that he was able to identify the women as authors and understood the perspective they brought to the question. This was something some of the students struggled with in the historical lesson. Several, in fact, said the Women's Petition was NOT trustworthy, because it was not approved by the assembly. It's not clear what the students meant by this, but further discussion and guidance could have helped discern whether the fact that the petitions were not approved (or even discussed) by the General Assembly invalidated the women's reliability as authors in this case. In another GO, students explained that Sieyès' pamphlet was trustworthy because "the headnote mentions it's a pamphlet written by someone important from that time, in response to a call by King Louis XVI's minister of finance…" (Students 11, 37, 38, 42 & 44). Although this is all relevant context, perhaps the key element to highlight with regards to the author was that he was an influential political thinker of the revolution (as explained in the headnote), which none of the GOs noted.

From the low number of students who evaluated the historical sources on the basis of authorship/origin/publication, and from the thinking of those who did, it seems like students had a harder time situating the creators of these sources and their significance in this historical context (a context that was complex, and very new to the students), as compared to the creators and significance of the contemporary sources. Moreover, the notion of evaluating historical

sources seemed more alien to them than the idea of evaluating contemporary sources, and would have required more specific instruction, guidance, and opportunity to think through.

Source Evaluations Based on Date

The majority of the GOs throughout all three lessons included evaluations on the basis of date of creation/publication. In Lesson 1 (contemporary), three of the four sources were news stories dated earlier in the year (2021); generally, students said that they were reliable because they were recent. One student elaborated a little more, saying "The date of writing is recent, which makes you think it's new, breaking…" (Student 10). The fourth source was the Wikipedia entry on the World Monetary Fund, and the date had not been included in the prepared source, which caused some questions and reservations. In Lesson 3 (also contemporary), the issue of dating was much more contentious. Some students positively evaluated that the rest of the sources were recent, but many more criticized that the newspaper survey about the public's attitudes towards migrants, with data from 2018 and 2019, didn't include current data. Some added the consideration that we don't know whether there was a shift in Mexicans' attitudes after Biden took office (since the headnote of the source explained that in 2019, Trump had threatened to impose tariffs on Mexican products if Mexico didn't implement more severe actions to deter Central American migration, the implication being that this could have influenced Mexicans' views on migration policy at the time). Overall, recent sources seemed most convincing to students in the contemporary lessons dealing with current issues.

In Lesson 2 (historical), around half of the GOs noted that the sources were from 1789 – the year of the French Revolution. The video they had seen modeled the rationale that, if the document was from 1789, it would be relevant for knowing what revolutionaries wanted in the beginning of the revolution (the background building portion of the lesson had also covered

subsequent stages of the revolution). It seems like this concept was clear and stuck with many of the students as something relevant to note when assessing the sources.

Source Evaluations Based on Type of Source

In Lesson 1, few students (17%) evaluated on the basis of source type. These students' thinking was mostly in the sense that news stories / news sites were trustworthy, with one student elaborating further: "...It is a news portal where (…) fallacies are frowned upon, because the purpose of these sites is to speak the truth" (Student 8). In contrast, in Lesson 3 (also contemporary), most of the GOs (62%) included evaluations that brought up the type of source. This may have been partly because, compared to Lesson 1 (in which there were three news stories and one Wikipedia entry), there was a wider variety of types of sources in Lesson 3 (an infographic, a press release, a video, and a news story). Several students reasoned that the video of the hearing was trustworthy because it actually showed the event that the two previous sources (the infographic and the press release) were talking about: Student 20 wrote "I think it is very useful and trustworthy because it's the hearing itself and we can see what happened and what was said in regards to the situation…". In contrast, one student reasoned that the video might have been edited. Another common evaluation of source type was that the survey was not useful or trustworthy *because* it was a survey. Student 35, for instance, wrote: "It is not useful, because it is just a survey, it is not that trustworthy…". It wasn't clear why many students thought so, although one said that people can respond to surveys untruthfully, and another said that surveys can be manipulated. In the "What else would you like to know?" column, some students wanted to know about the sample and the methods used in the survey.

In the historical lesson, student moves were more rich and varied when it came to noticing the type of source. 53% of their GOs included some mention of type of source. Some of

them were mere mentions of the type, while others showed more understanding about their

implications as primary sources (even though that term was never used by them, or during

instruction). Table 3.7 shows a range of evaluations by type of source in Lesson 2.

Table 3.7. Instances of evaluations with type of source in Lesson 2 (French Revolution)

Title of the prepared source	Entries in students' graphic organizers	Researcher's comment
What is the Third State? By Sieyès	"It is trustworthy. It states dates and important events regarding what **the pamphlet** written by Joseph Sieyès said" (Student 32)	A similar idea was modeled in the video that students watched: "I'll continue with the next part of my guide, the source itself; that is, what Sieyès' pamphlet actually says..."
Declaration of the Rights of Man and Citizen	"I think this source is trustworthy because it names the men who participated in the writing of the text, and because **the text is a Fragment of the Declaration of the Rights of Man and Citizen**" (Student 17)	The attribution of the prepared source specified that these were fragments of the Declaration. It is unclear what the implication was for the student, but it seems like it was significant to her.
Tennis Court Oath	"This one seems more trustworthy from my perspective because **the document itself has a link where the oath they made is backed up**" (Student 30)	The student seems to recognize that the Oath is an act and an artifact that someone made, and that can be consulted, beyond the prepared version presented to her.

Women's Petition to the National Assembly	"The source indicates the date of the start of the revolution, and **women's petition to the National Assembly**, which implicitly tells us what they accomplished with the first stage of the French Revolution, and that the National Assembly was created as a consequence of this event. It's a **petition for the National Assembly**, but it wasn't discussed" (Student 5. Students 17 and 30 had very similar responses)	To these students, the existence of this petition to the National Assembly is a sign of what was accomplished previously - the formation of the National Assembly. They also note that, although it was a petition, it was not discussed (pulling from the source information). The students don't say how all of this impacts the usefulness and trustworthiness of the source for the inquiry question.
Source set as a whole	"Both were very useful to me because they have factors that make them trustworthy like the author and date, as well as being **official Documents and backed-up veracity"** (Student 24)	This student notices that all of the sources are "official documents", and seems to think they are authentic, but he's not explicit about their historical nature.
What is the Third State? By Sieyès	"It is trustworthy because it is an **old, and well cared for text from that time**" (Student 16)	The student shows an understanding of the nature of the source, even if she doesn't employ the terms "primary source" or "historical source"
Source set as a whole	"They somehow complement each other, which makes them useful to answer the inquiry question; they are trustworthy because they are just **translations or fragments of original documents**" (Student 2)	These students found commonalities in source type across the source set. They show an understanding of the historical nature of the sources, even if they don't employ the terms "primary source" or "historical source". They also understand that the sources are useful and complementary for the inquiry question.
Source set as a whole	"All of these sources were very useful to me, since they are **historical texts**, and important in the French Revolution. All of them are about the same set of issues and in the same time line" [She probably meant time frame] (Student 16)	
Source set as a whole	"The sources are useful because they mention important events and documents that nowadays are proof of what happened in that revolution, and thus I can get an idea of the	

grievances that the revolutionaries experienced and that it was something they wanted to change, and since **they are documents from that time** they seem trustworthy, in addition to being **from the perspective of the people from that time**" (Students 11, 37, 38, 42, & 44)

These instances suggest that the source evaluation activity during Lesson 2 served as an inductive way for many students to understand the nature of historical sources. Even though they didn't have the disciplinary knowledge or language, students noted that the sources were different types of documents authored by relevant historical actors, or that they were documents that held significance in their historical context, or that they had been conserved from that time for us to consider in the present day. However, further work would have been needed in order to cement these concepts and to make them accessible to all of the students, including the ones whose evaluations didn't point in these directions.

Source Evaluations Based on Content

The majority of the GOs in Lessons 1 and 2 and all of the GOs in Lesson 3 included evaluations based on the content of the sources themselves after reading both the source information and the content. Per this study's definition, source content is a valid and important dimension of overall source evaluation. In all three lessons, most of the students who included evaluations based on the content specified what theme or information in the content made sources useful, relevant, or trustworthy. Some would elaborate on how this content could help respond to the inquiry question. For instance, one student wrote that the WHO article in Lesson 1 was "useful to answer the question because it says that countries who have the resources to contribute, do so" (Student 11). Other rationales seemed less relevant or specific. One, regarding the same source, wrote: "It names important institutions and actors" (Student 38).

A few students also noted potential reasons to be skeptical about the content of the sources: one said that the news story about Biden's climate summit was not trustworthy because it favored the United States' president (Student 34). Several students also noted that this news story and the G7 news story featured politicians' words, but not necessarily the reality (this move was modeled in a video). For instance, Student 17 noted that in the climate summit source, presidents made promises for when they would no longer be in office. Student 39 questioned the veracity of the government' claim that it was aiding migrants: "I would like to know if there is proof, like photographs and such, to verify their good actions towards these people." None of the GOs in the historical lesson included this kind of skepticism.

Over half of the GOs in Lesson 1 included at least one evaluation based on superficial or formal aspects such as spelling, formatting, clarity, and composition, rather than the substance of the content. This was no longer observed in Lesson 2, and only twice in Lesson 3. It may be that these criteria didn't seem as relevant or adequate after the first lesson (although they didn't get any specific feedback regarding this).

Another move that appeared to diminish after the first lesson was the idea that the sources were not trustworthy or useful because they didn't answer the inquiry question completely or directly (52% in Lesson 1; 29% in Lesson 2; 12% in Lesson 3). Indeed, no source by itself provided a comprehensive answer, and all of them required inference to some degree; but every source in each set was included because it provided a relevant perspective for the inquiry question. It is possible that the sources in Lesson 1 required inference to a higher degree, thus explaining why more students made this evaluation. But it also seems plausible that, given that it was their first time with this kind of document-based inquiry lesson, many students were expecting to find more direct and comprehensive answers in the documents, in contrast to

Lessons 2 and 3. This explanation seems corroborated by an increasing number of GOs in which students explicitly stated that the sources provided different perspectives, and/or were complementary to respond to the inquiry question. (They mostly did this in the bottom row of their graphic organizers, in which they were asked to consider the source set as a whole.) For instance, in Lesson 2, Student 25 wrote: "With the provided information it's easy to deduct the purpose, because as you read it, you realize part by part what they [the French revolutionaries] wanted." In Lesson 3, Student 32 wrote: "They [the sources] make us see that there are positive and negative things [ways in which Mexicans do and don't act as global citizens towards migrants], they give us correct information to answer our question."

In the modeling videos students watched, the evaluation focused on source information first, then content, and then a global evaluation that considered both in response to the prompt "How useful and trustworthy is this source for responding to the inquiry question?" Accordingly, throughout all lessons, students often evaluated each source on both aspects, but there were also instances of evaluating on content alone: not all students seem to have considered source information crucial, which is probably a more novice-like approach.

Evaluations of the Wikipedia Source

The Wikipedia entry on the World Monetary Fund in Lesson 1 was an interesting case. 16 out of the 23 GOs deemed it not useful and/or trustworthy because anyone could edit it, and one more just said it was untrustworthy because it was Wikipedia. Some students were adamant: "Wikipedia is definitely not trustworthy because anyone can revise that information." (Student 18) "... for people who are not very knowledgeable, it can be easy to fall for this fake information." (Student 13) (She used the word "falsa," maybe from the expression *noticias falsas* - fake news). The headnote explained that, even though anyone can edit Wikipedia, there are

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rules for backing up the information, as well as volunteer editors who take care of its quality and accuracy; but this didn't seem seem to make an impression on most students. Students 8 and 16, for instance, wrote: "Even though there are procedures to verify the information, they are done only by volunteers, which makes me resoundingly mistrust the veracity of this article." It seems as though students have been categorically taught not to trust Wikipedia. One student wrote: "In reality, we are always told that Wikipedia is not a trustworthy site" (Student 42). Student 20 had made the same remark during class.

Six students also deemed that the Wikipedia article was not trustworthy because it didn't include references for its information, or because it wasn't dated. (This may have been partly because the embedded references and the date of last update were omitted in the prepared source. The original source was linked.) In contrast, nine GOs stated that there *were* references in the article - some even said it was trustworthy because it was *not* anonymous. Seven GOs stated that spelling mistakes made the article less trustworthy (there was a typo in the prepared source).

Students' negative responses to the Wikipedia article are a reminder that their prior ideas may have played a large role when they evaluated this, as well as other sources. Moreover, it seems like brief evaluation exercises like this one are useful in eliciting students' initial ideas, but that further discussion and guidance would be necessary. In this case, there could have been supplementary discussion and guidance to better understand whether the article has references, whether it can be haphazardly edited, and whether/how students should use it for the purpose at hand (in this case, learning about the World Monetary Fund in the context of their investigation about the power of the richest countries).

Discussion

This study set out to investigate the strengths and challenges that Mexican high school students bring to source evaluation in history and social studies inquiry lessons with multiple sources, and whether there are differences between how they evaluate contemporary sources as compared to historical sources. Within the scope of the data and methods in this study, the results were largely in line with the reviewed literature, and they added qualitative nuance and novel elements regarding both research questions:

Many students conveyed their awareness that **availability of source information** contributes to its reliability. This evaluation move was unexpected from the point of view of the instructional design, in which the inclusion of source information in the prepared sources was a given. Moreover, to my knowledge, the literature doesn't account for students' valuing the presence of source information; yet, this is an important starting point for source evaluation, which can be built on where present, or built up when not. Multiple students also positively appraised the presence of in-text references, quotes, and links: this is comparable to Strømsø et al.'s (2013) finding about students' attention to sources within sources. Students often criticized the absence of certain source information - a critique which was sometimes more warranted, while other times it seemed to stem from misunderstandings. These results suggest that even the act of identifying whether source information (or enough relevant source information) is present, is not straightforward. Further, this can be a fruitful area of learning, both in terms of source evaluation skill and in terms of meaningful engagement with the content under study via engagement with authentic sources (i.e., ultimately, what is the source of information in a news story about an international climate summit? The newspaper where it's published, the news agency that provides the information, the mandataries quoted…? Is it enough to know that the women's petition to the National Assembly during the French Revolution was authored by

revolutionary women, even if we don't know their names? What source information should we minimally expect in different scenarios of everyday life?).

The categories of source evaluation that Britt and Aglinskas' (2002) identified through their research captured many of the moves students made in this data set. Most students included evaluations by **author, origin, and/or publication** in the contemporary lessons. However, they often did so in minimalistic ways (i.e., only stating that a publication was reliable or well-known without further elaboration, or not addressing potential bias). This suggests students came in with an initial attention and sense of evaluating by author/origin/publication which could be built on, although less so in the case of the historical sources. With regards to **date**, many students showed a good grasp of attending to the value of recent sources for contemporary issues, as well as the significance of the historical sources being from the time under investigation. Given how straightforward these considerations were, it is possible that there was a kind of ceiling effect, and that some of the students were ready for more advanced date-related evaluation moves, had the sources called for it.

In contrast, fewer students evaluated on the basis of - or even mentioned - the **type of source**. Yet, attention to source type has been found to be predictive of better comprehension and better evaluation of multiple texts (Strømsø et al., 2013). Students evaluated based on source type more often in Lesson 3 than in Lesson 1. This could be explained by the wider range of source types in Lesson 3 making this feature a more salient one. It could also be explained by students gaining more experience in working with sources. Students' reasonings showed initial engagement with evaluating based on source type, but it could have been built on for fuller exploration and understanding of its implications. (For instance, the question about the reliability of the survey on Mexicans' attitudes on migration raised a number of plausible positive and

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negative considerations, but they were somewhat incomplete.) In the historical lesson, students noted the different types of sources. They didn't elaborate on the implications of each type, but they advanced approximations to the idea of primary sources, even though this concept was not in their repertoire.

Students evaluated on the basis of **content** more often than source information, just as the participants in Bråten et al.'s (2011) study. Students' evaluations in this category included mentions of relevant actors or themes, rationales for how the source related to the inquiry question, or expressions of skepticism (i.e., regarding politicians' statements). These findings show different ways in which content can be a relevant criterion for evaluation. Even though tending more to content than to source information appears to be a feature of more novice source evaluation, it is also valid: it is a strength that should not be discounted, but built on. In contrast, attention to content was seen more as a weakness in Wineburg & McGrew's (2019) study, where participants were asked to establish the origin and legitimacy of online sources, and where "lateral reading" proved to be more strategic than focusing on the content itself.

In certain respects, students seemed to have increased their skill in evaluating based on content. For example, after Lesson 1, there was a drastic drop in the number of evaluations based on superficial or formal aspects, as well as in the number of criticisms saying the sources didn't address the inquiry question, while comments about how the sources offered complementary perspectives on the inquiry question increased.

Students tended to evaluate the sources positively more so than negatively in this study, but the **Wikipedia** entry was an exception. Wikipedia is a crowd-sourced encyclopedia with specific rules and mechanisms to construct and vet its content, which results in advantages and disadvantages in terms of the quality and accuracy of its articles, as Rosenzweig (2006) noted in

an early appraisal of the encyclopedia's historical entries. Yet, students had been taught NOT to trust Wikipedia as a blanket rule (at least in a school setting). The source information that might have suggested a more nuanced view was mostly overpowered by their prior generalized mistrust. This can serve as a reminder about the potential role of prior ideas about particular sources, and that particular misconceptions might need to be addressed more deliberately. This instance can also serve to illustrate that such brief evaluation can be useful in eliciting students' initial ideas, but are insufficient for unpacking relevant considerations.

The second research question was about the **similarities and differences between students' evaluation of contemporary as compared with historical sources**. We know from the literature that students don't spontaneously engage in historical sourcing (Britt & Aglinskas, 2002; Stahl et al., 1996; Wineburg, 1991); indeed, this study illustrated some of the challenges novices may encounter. At the same time, we know that certain task designs, such as having students construct arguments from multiple, contrasting documents, can prompt students to source historical sources more (Wiley & Voss, 1996, 1999). In this case, the setup and prompting of the historical lesson led to interesting approximations of sourcing (i.e., students realized that the sources constituted complementary voices from early revolutionaries preserved in historical documents). Additionally, the juxtaposition of novice students' source evaluation in contemporary vs. historical lessons (not previously explored in the literature) allowed for illustrative comparisons.

As compared to their work with contemporary sources, the low number of evaluations of historical sources on the basis of authorship/origin/publication, along with the absence of more substantive evaluations on this basis, suggests that students had a harder time grasping the historical significance of the creators/context of creation of the sources. Additionally, although

students used content as criteria to evaluate both the contemporary and historical sources, they did not communicate skepticism in the latter case. The source information and content in the historical sources included actors, complex situations, and complex linguistic features that students may have been unfamiliar with, despite the background building that preceded the work with sources. This, along with the brevity of the evaluation exercise, may have contributed to the challenges.

There were few evaluations by type of source in both the contemporary and historical sources. However, in the contemporary investigations, these evaluations included some reasoning about the specific types of sources (i.e., a news story, a survey), which wasn't the case in the historical lesson, which sheds light on some of the discipline-specific demands of evaluating historical sources. Instead, in the historical lesson, students shared reasoning that pointed to the general idea of primary sources (i.e., they were well-preserved documents from the relevant event). Similar considerations were also present in students' evaluations based on author and date. This suggests that students are capable of inductive approximations to sourcing and historical thinking when asked to evaluate the usefulness and trustworthiness of multiple sources for an inquiry question, even in the absence of explicit disciplinary instruction.

Implications and Conclusion

In this study, students displayed a range of source evaluation moves and skill levels with minimal instruction. Even though these were just initial approximations, similar exercises could serve as entry-points to further develop source evaluation skills, as well as entry-points into the substance of different social issues and disciplines. The literature and findings in this study, although limited to a case in a single school, suggest some ways to support source evaluation in Mexican history and social studies education. Lessons that position students as active inquirers

who draw from multiple sources to investigate and come to their own conclusions regarding complex issues create an authentic need for evaluating sources (akin to the need of doing so in diverse academic, civic, and everyday situations). These instructional scenarios can create opportunities to build on, and build up students' ideas and skills in attending to sources' information and content in order to gauge their relevance and reliability for given purposes. Relevant source evaluation considerations can vary across situations, genres, specific publications, and disciplinary contexts (i.e., contemporary social issues vs. historical issues) - thus, instruction and supports should take into account such variations.

Subsequent research could seek to further explore novice students' incoming ideas and skills around source evaluation, and how they can develop with instruction and practice. Future studies could also investigate how to mutually leverage source evaluation with factors that are known to interact with it, such as reading comprehension, active reading, subject knowledge, or motivation. Finally, while there is robust, long-standing work around sourcing in history education, as well as growing attention to source evaluation of online and other media; future research could aim to specify key concepts, skills, and pedagogies for supporting students in evaluating a range of sources (i.e., official reports, experts' input, testimonies, news stories) to make sense of contemporary social issues. The following are some more specific directions research and practice could take in this realm, using the findings of this study as starting points.

Many of the students in this study were ready to value the presence of source information, and to be wary of its absence, although they weren't always the best judges of whether the relevant information was present or not. Further research could investigate in which specific contexts and genres -inside and outside of school- Mexican youth already demand source information when needed, and know how to locate it, and in which cases not. Educators

can build on their students' existing awareness of source information and its significance, and help fine-tune it, or transfer it to other genres that students may be taking at face-value even without identifiable source information. For instance, if students know news articles need to quote their sources, what other texts or people (academic, online, everyday…) do they think should do the same, in order to gain their trust? Educators can also capitalize on students' willingness to scrutinize sources' credentials to encourage them to dig deeper into social actors and issues. For instance, if they're wary of an article by the WHO because it doesn't state the goals of this organization, can they find out more about the WHO and its goals?

This study shows the credence that many students lent to reputable news sources and organizations. However, the lessons in this study only included a small range of sources. How would students rate the reliability of other news outlets or organizations? How would they evaluate the reliability of individual journalists, experts, and other actors? Moreover, the results suggest that students were attentive to the reputation of publications, but not as vigilant about more nuanced considerations, such as author's position, motivation, participation, expertise, or potential bias (at least with the minimal amount of time and support they were given). Students could benefit from added guidance and time to disentangle these components in order to better evaluate the sources, but also to better grasp the complexities of the issues at hand. Although this study provides limited data on students' ability to evaluate sources based on date and type of source, educators should also include these criteria – alongside author, origin, and publication – when guiding students.

The results of this study also suggest that many students already pay attention to the content when evaluating sources – specifically, whether the content seems relevant to the issue at hand, and whether it provides enough information. There seems to be a trajectory, or at least a

range in how students evaluate sources based on content: on a more novice end of the spectrum, students would expect to find direct, explicit, and complete answers to their questions. On a more skilled end, students would be prepared to infer from what the sources say, from what they don't say, and even from what their mere existence signals. They would be prepared to accept that different sources can be fragmentary, complementary, and even conflicting; and they would have strategies to navigate this complexity. Teachers could help students move through these trajectories through instruction and opportunities to practice.

Chapter 4 Conclusions

This dissertation project set out to explore the potential of an inquiry and disciplinary literacy approach to history and social science education in Mexico. This research goal is very broad, but this project constituted a first approximation through collaboration with one school site, with one set of lessons, and focusing the analysis in two specific ways.

The first study (Chapter 2), "Exploring Teachers' Uptake of an Inquiry and Disciplinary Literacy Approach to History and Social Science Education in a Mexican High School," focused on the teachers' uptake of history and social science lessons that drew on design principles for teaching inquiry and disciplinary literacy. The principles were: framing history and social science as inquiry; tending to cultural relevance; developing connections to background knowledge; using a cognitive apprenticeship approach; fostering and facilitating discussion; using a process approach to writing; and providing differentiated literacy instructions/supports.

The teachers, who were new to an inquiry and disciplinary literacy approach, found it valuable - both initially and as they iteratively practiced it and reflected on it. When implementing prepared lessons, they took up the core structure of having students make connections and build background knowledge, investigate an inquiry question through various sources, and write in response to the question. Guided teaching and learning materials aided in this uptake, including frequent open-ended, dialogical activities (a novel feature for the teachers). These findings are encouraging for further work in the same direction. On the other hand, more class time was spent on the preparatory stages of the lessons (making connections with prior knowledge and experiences and extending background knowledge in preparation for the

inquiries) than on work with source evaluation and analysis or argument writing, which students

mostly completed on their own. The length of the lessons and time constraints played a role,

along with teachers being new to teaching the disciplinary literacy practices. Further projects

could work with the hypothesis that prioritizing this in preparation would raise its uptake; along

with materials that reduce lesson length, center strategically selected disciplinary literacy

practices, and embed strategic pedagogical guidance.

This study operated under the assumption that academic rigor and a disciplinary

orientation were complementary with social, cultural, and political aims of history and social

science education, and this was practiced in certain aspects of the design and implementation.

Further research could more explicitly center and explore the complementarity between these

two realms, which are sometimes seen as separate or even mutually exclusive. One of the many

directions this work could take is addressing diverse – often polarizing – political perspectives in

contemporary Mexico. The recent federal government's new model for K-12 education features

concepts such as community-centered education and decolonialism (Secretaría de Educación

Pública, n/d). This has sparked debates: some deem that prescribing these orientations amounts

to indoctrination, while others celebrate the inclusion of perspectives that had only existed in the

counter-currents of education under neoliberal administrations. Meanwhile, the recently

published results of the project *Residente: Observatory of Relations between Young People,

History and Politics in Latin America* (Cerri, 2022) shed light on the diverse political leanings of

Mexican and Latin American youth, as well as their differing feelings about contentious

historical and social issues (e.g., whether reparations are owed to Indigenous people). An inquiry

and disciplinary literacy approach would provide students with spaces and tools to recognize

diverse perspectives and to inform their own, rather than prescribing specific stances.

The second study (Chapter 3), "Source Evaluation in History and Social Sciences in a Mexican High School: A Case Study of Beginners' Engagement," focused on how students new to source evaluation in the context of history and social science inquiry engaged with this practice. Even though source evaluation wasn't a focus of instruction as intended, and even if students' approximations were brief, the fact that they got to work on source evaluation as a component of the inquiry lessons opened up a window into their thinking. Students' work shows how they leveraged their understandings to gauge the relevance and reliability of different sources for the issues and questions they were investigating (e.g., they valued the prestige of news outlets and organizations), as well as factors they didn't consider (e.g., authors' positionality). Students' work also shows some of the discipline-specific demands of evaluation historical sources compared to contemporary ones.

These findings contribute qualitative nuance to the existing knowledge about novices' source evaluation in both contemporary and historical realms, and provide a foundation for future work with Mexican students. The study is also illustrative about the kind of thinking that similar exercises can elicit, both in terms of source evaluation *per se,* and in terms of how this disciplinary practice can prompt deeper learning of social and historical issues. Subsequent research could further investigate Mexican students' existing skills when evaluating a range of sources in a range of contexts, as well as identify key areas of work with source evaluation for making sense of complex issues, thus helping fine-tune subsequent curriculum development.

Taken as a whole, this dissertation can have broad practical and research implications. What are potential implications for Mexican high school history and social science teachers? I hope that reading about an inquiry and disciplinary literacy approach and what it can look like in classrooms will be informative for those seeking new ways to elevate the relevance and

authenticity of their courses' content, and those seeking new ways to honor and promote students' active roles in learning, while still providing valuable instruction and guidance. Teachers who are new to the concepts and practices in inquiry and disciplinary literacy could get better acquainted by completing one of the lessons: first as learners themselves, and then implementing it with their students. They can draw from the approach in different ways, whether that means implementing specific pedagogical techniques and disciplinary practices (e.g., asking open-ended questions to promote students' connections to new materials, using a range of authentic documents, or guiding students to closely read them and evaluate them), implementing entire inquiry lessons (as proposed or with adaptations), creating their own inquiries using the existing ones as blueprints, or otherwise innovating based on the general idea of positioning students as active inquirers who draw from multiple sources to investigate and come to their own conclusions regarding relevant questions and complex issues. Trying out, practicing, reflecting on, and adapting the approach is key.

Similar considerations are applicable to teacher preparation. Inquiry and disciplinary literacy offer ways to conceptualize and operationalize teaching and learning in history and social sciences; including an overall epistemic and pedagogical framing, a logic for lesson planning, and a host of specific pedagogies that research has found to be key for student engagement and learning. Teacher educators can provide opportunities for pre-service teachers to develop both the theoretical foundations and the teaching practices they will need. History methods courses offered as part of the curriculum for pre-service teachers at Normal schools in Mexico would be one obvious site for teacher preparation with an inquiry and disciplinary literacy approach; but a range of other pre-service and in-service teacher preparation courses, workshops, and materials could also benefit from it.

Curriculum development could constitute an especially promising extension of this study's work in Mexico. To my knowledge, there hasn't been any development of detailed instructional materials to teach and learn specific contents in history or social science. The modular design of inquiry units that address concepts and contents commonly featured in high school curricula – or other relevant contents that are typically excluded –, would allow teachers to adapt and incorporate them in their courses. At the same time, these inquiry lessons could work as vehicles to communicate and scaffold the pedagogies of inquiry and disciplinary literacy (Reisman & Fogo, 2016). The design of such materials should draw on the input of a range of disciplinary and social experts and stakeholders who can help orient contemporary, relevant, well-grounded, and plural framings of content and selections of sources.

Another area of work lies at the intersections of inquiry and disciplinary literacy and *general* literacy. As was the case in the present project, history and social science inquiries can provide opportunities for students to read and write meaningfully in subject areas in which literacy isn't often a focus. How could educators make inquiry and disciplinary literacy more accessible for students of differing reading and writing profiles? How can the inquiries embed supports to strengthen students' general literacy skills, ranging from foundational to advanced? What aspects of disciplinary literacy would it be strategic to foster for Mexican students' general literacies development?

It is my belief that all of these areas of work should be pursued both in practice and through research whenever possible. Design-based research offers a methodological framework to leverage both aspects simultaneously. Innovations in history and social science education should draw both on research and on educators' and other stakeholders' expertise and aspirations. In turn, the implementation of such innovations should be iterated, adjusted,

documented, and analyzed in order to build robust understandings and orientations for subsequent practice. The projects in this design, practice, and research agenda should strike a balance between local relevance and wider scalability (Fishman et al., 2013), so they can contribute to more systematic an equitable access to meaningful history and social science education. This dissertation project - including the two manuscripts for submission and its associated instructional materials, as well as the knowledge, relationships, and ideas generated throughout the process - will hopefully serve as a stepping stone for me and others to contribute a broader program of elevating the social relevance and the academic robustness of history and social science education through research, curriculum development, and teacher preparation.

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