



Elementary School Pre-service Teachers' Multimodal Practices: A Multiliteracies Approach¹

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Abstract

Opening opportunities for language engagement through multimodal practices that start in the classroom and continue to develop in pre-service teachers' lives turns out to be a resource to build teacher knowledge. Moreover, the use of digital resources and multiple modes of communication are alternatives that connect with today's learning environments. This study, framed within a qualitative approach and a hermeneutic perspective, aims to develop understandings of elementary school pre-service teachers' multimodal practices while implementing a multiliteracies approach. Data were collected through a teaching diary, two questionnaires, and the implementation of a pedagogical multimodal proposal. As a result, this project contributed to developing understandings of participants' initial multimodal practices; narratives unveiled their funds of knowledge; stories connected image, action, graphics, and sound; built confidence for teacher development while conceptualizing and applying multimodal practices; and raised awareness of the need to contextually and ethically use digital tools in their current and future teaching careers.

Keywords: Elementary school; pre-service teachers; multimodal practices; digital tools; pedagogy of multiliteracies.

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Prácticas Multimodales de Maestros en Formación: un Enfoque de Multiliteracidades

Resumen

Las oportunidades de interacción lingüística a través de prácticas multimodales, que comienzan en el aula y continúan desarrollándose en la vida de los futuros docentes, resultan ser un recurso para construir conocimiento educativo. Además, el uso de recursos digitales y múltiples modos de comunicación son alternativas que conectan con los entornos de aprendizaje actuales. Este estudio, enmarcado en un enfoque cualitativo y una perspectiva hermenéutica, busca comprender las prácticas multimodales de futuros docentes de primaria, implementando un enfoque de multiliteracidades. Los datos se recolectaron mediante un diario pedagógico, dos cuestionarios y la implementación de una propuesta pedagógica multimodal. Como resultado, este proyecto contribuyó a comprender las prácticas multimodales iniciales de los participantes; las narrativas develaron sus fondos de conocimiento; las historias conectaron imágenes, acciones, gráficos y sonidos; se fortaleció la confianza para el desarrollo docente y a través de la conceptualización y aplicación de prácticas multimodales; y se concientizó sobre la necesidad de utilizar herramientas digitales de forma contextual y ética en sus carreras docentes actuales y futuras.

Palabras clave: Escuela primaria; futuros docentes; prácticas multimodales; pedagogía de las multiliteracidades.

Introduction

Teacher education requires social commitment and ongoing training and reflection on the advances taking place in this globalized world. Thus, the diversity of technological devices enables access to information and communication that facilitate teacher development processes through pedagogies that are open to a multiplicity of texts that go beyond the alphabet to enter the digital age ([Jewitt, 2008](#); [Kress, 2010](#)). This era introduces spaces for meaningful learning, provided they are contextually mediated ([Kumaravadivelu, 2012](#)), allowing for dialogue between global and local experiences ([Short et al., 2016](#)).

The BA in Elementary Education at Universidad del Cauca was the context of this research, whose aim was to identify multimodal practices (MM) implemented by pre-service teachers (PSTs) and professors. The literature acknowledges MM works in diverse populations ([Aedo & Millafilo, 2022](#); [Escobar-Almeciga & Brutt-Griffler, 2022](#); [Gualdron & Castillo, 2018](#); [Kaneko-Marques, 2015](#); [Quintana, 2020](#); [Rubio-López, 2024](#); [Villalobos, 2017](#)); however, a study with PSTs that connects MM and Multiliteracies (ML) has not been developed. Moreover, our population would benefit from approaching digital MM skills that strengthen their future teaching practices. Based on these premises, we designed and implemented a pedagogical multimodal proposal, framed within a ML approach ([Cope & Kalantzis, 2009](#)). Afterwards, we systematized this experience to develop understandings of how PSTs approach multimodal texts for educational purposes.

We thus focus on the teaching and learning of English as a cross-cutting theme with a global perspective ([Kumaravadivelu, 2012](#); [McKay, 2018](#)), in response to the needs of the local, regional, and national contexts to cultivate the desire and joy for learning the language to access other areas of knowledge, and to develop a critical stance toward the school and social environment. We are therefore framed within the promotion of meaningful social literacy practices ([Street, 2013](#)), and the recognition of the role of different modes of communication in the construction of meaning. In this sense, [Cope and Kalantzis \(2000\)](#) present a pedagogy of ML understood as the “negotiation of a multiplicity of discourses” (p. 9); it is an approach that includes multiple modes of communication while considering globalization and diversity.

Specifically, this project contributed to the University mission of training teachers with human and academic qualities at the service of the region and the country, who can research and reflect on their own pedagogical practices and developing curricular and training processes for diverse populations. This was evidenced by answering the following research question: How does a multiliteracies approach contribute to elementary school pre-service teachers' multimodal practices? Next, we introduce those authors and discussions that connected this study to the current literature.

Theoretical Framework

To develop this research, theoretical references related to ML pedagogy, MM, and PSTs education were included. The references presented are from national and international authors, as well as a review of publications of Colombian journals, which contributed to understanding the path followed in the study of the topic of concern.

There have been studies about literacies developed in the Colombian national context which urge to develop literacy practices that include local knowledge ([Sharkey, 2012](#)), raise awareness of social and educational issues ([Clavijo, 2000, 2007](#); [Clavijo & Ramírez-Galindo, 2019](#); [Correa, 2010](#); [Mora, 2011, 2016](#); [Rincón & Clavijo, 2016](#)), and establish a connection between local knowledge and social transformation ([Mora et al., 2021](#)). As an illustration, [Clavijo \(2000, 2007\)](#) has inquired into the role of literacy at different levels of education, reflecting upon primary school students, PSTs and in-service teachers' understandings of literacy practices, and the need to integrate school subjects to nurture more meaningful literacy practices. Likewise, [Mora \(2011\)](#) analyzes the evolution of literacy beliefs and practices of teachers; in particular, there is a call for literacy with a purpose to exercise critical consciousness, examine ideologies in textbooks, and foster agency by including city literacies that transform individuals through reflection and advocacy ([Mora, 2016](#)). The following sub-sections introduce works developed in the field, how they connect and contribute to this study.

Multiliteracies Pedagogy

The [New London Group \(NLG\) \(1996\)](#) developed the concept of ML pedagogy from a teaching approach that addresses cultural, linguistic, communicative, and technological diversity. As such, [Cope and Kalantzis \(2009\)](#) set an interpretation of the *why* of ML, focusing on the creation of meanings and the representation of worlds. To do this, they explore the *what* as the need to conceive the creation of meaning as a form of active and dynamic design or transformation of the social world and its increasingly MM contemporary forms, with linguistic, visual, aural, gestural, and spatial modes of meaning; and the *how* to highlight the limitations of traditional literacy methods and allude to the need for pedagogical movements that include both *situated practice* and *overt instruction*.

From a sociocultural perspective of literacy, the traditional view of reading and writing that was considered a monolingual, monomodal and monocultural activity ([Cope & Kalantzis, 2000](#)) has changed; reading and writing go beyond the alphabetic code; there is no one literacy, but plural literacies as discourses existing ([Gee, 2008](#)). Subsequently, [Mora \(2011\)](#) points at the difficulty of using the word literacy and establishing its clear meaning, while he argues that one meaning that is commonplace among scholars is: “the transition from traditional canonical views of reading and writing to one where multiple forms of expression, technology, and alternative and multicultural text have come into play” (p. 3). Mora’s insights expand our notion of literacy to an inclusive practice derived from learners’ needs, which can only be possible by considering their own realities, contexts, and life experiences, or what [Freire \(1987\)](#) would name reading the world. Moreover, technologies have opened roads to new literacies, and to what is relevant today; according to [Gee \(2008\)](#) “it is to deal with multimodal texts (texts which mix words and images), nonverbal symbols, and with technical systems within specific, and now usually highly collaborative, institutional practices” (p. 40). MM texts are therefore very close to language learning processes as they represent the ways we communicate.

A pedagogy of ML aims to attend to the multiple and MM texts and wide range of literacy practices that students are engaged with ([Jewitt, 2008](#)). As a parallel between texts and people, [Jewitt \(2008\)](#) questions the traditional monologic relationship between teacher and student; that texts transcend an only way to communicate, to learn, and to perceive life, situating students and teachers as participants in social change and as active designers of social futures ([Cope & Kalantzis, 2000](#)). This pedagogy engages critically directly with students’ values, identity, power, and design ([Jewitt, 2008](#)), as they are an active part in their own learning process.

Multimodality

Multimodality is described by [Van Leeuwen \(2017\)](#) as “the study of how meanings can be made, and are made in specific contexts, with different means of expression or ‘semiotic modes’” (p.5). In addition, [Jewitt \(2008\)](#) argues that MM “attends to meaning as it is made through the situated configurations across image, gesture, gaze, body posture, sound, writing, music, speech, and so on” (p. 246). From a MM perspective, image, action, graphic, and sounds are referred to as modes ([Jewitt, 2008](#), [Van Leeuwen, 2017](#)), as organized sets of semiotic resources for meaning making. These modes are perceived beyond the alphabetic code, as the normal state of human communication ([Kress, 2010](#)).

This study focuses on the education of PSTs, aligned to the three Ms perspective (multilingualism, multimodality, and multiculturalism) of a pedagogy of ML ([NLG, 1996](#)). The educational interactions of participants were enriched by the multiple modes of communication, the rich cultural interaction inherent to context, and the opportunity to communicate in English.

Pre-service Teacher Education

[Zuluaga et al. \(2011\)](#) reflect on the role of PSTs education programs, mentioning that if the institution has a professionalization perspective, simulation practices will be favored, which will divert the construction of pedagogical knowledge. Thus, breaking with the perspective of mere professionalization may provide PSTs with tools to develop and reflect upon their praxis. In this sense, [Freire \(1987\)](#) notes that “the action and reflection of men on the world to transform it” (p. 52).

Given PSTs face the process of being students and practitioners at the same time, this situation assigns them the temporary role of being teachers while learning to do so in the process. The challenge in this educational stage is to provide them with the ability to build pedagogical knowledge (Shulman, 1987), and not just the professional degree that entitles them to be teachers. In the words of Grossman and Richert (1988), teacher knowledge is “a body of professional knowledge that encompasses both knowledge of general pedagogical principles and skills and knowledge of the subject matter to be taught” (p. 54). That is, the teaching profession is nurtured by a complex set of principles that bring us closer to the classroom when we learn to reflect upon our teaching practices.

Teaching teachers how to teach seems to be a tongue-twister that defines PSTs' education, but which must go further. It means placing students in a pedagogical tradition that generates an understanding of the work of a teacher, one that is not alien to a historical and cultural moment in the context that shapes education (Zuluaga et al., 2011). In the discussion about the place of pedagogy in PSTs' education, Quiceno (2009) presents a reflection on the views of teacher training from the perspective of professor, educator, and pedagogue. He refers to the professor as someone who teaches because they have studied professionally; the educator as someone who educates and plays the role of a manager; the pedagogue, on the other hand, is a sensitive believer whose contextualized knowledge primes in the education process.

Situating PSTs' education within the specific field of English language teaching leads the discussion toward the vital issue of identity. Farrell (2015) describes teacher identity as a dynamic, career-long process that encompasses beliefs, values, and emotions. Aligned to this, Nieto (2018) asserts that “teachers do not leave their values at the door when they enter the classrooms... They bring their entire autobiographies with them: their experiences, identities, values, beliefs, attitudes, biases, wishes, dreams, hopes” (p. 24). That is, teacher identity encompasses not only beliefs and values about teaching, but also the emotions associated with that role, which we carry along and project in our teaching practices.

Background Studies

The review of publications related to ML, PSTs' education, and MM unveiled works that address the topics separately and, in some cases, intersect. Following, we present the analysis of these previous works in terms of the threads underlying the main themes of this research, mostly published in the Colombian context. This review introduces findings of topics epistemically or methodologically linked to the ones of our interest.

Studies on ML address the undergraduate and secondary levels with PSTs as participants; all publications approach the topic of ML differently, emphasizing on self-perception of ML (Areiza et al., 2014); ML teaching prospects and literacy trajectories (López-Gil, 2024); a didactic perspective on ML (Losada & Suaza, 2018); ML for students to read their communities critically to transform their lives, as a way to voice local realities (Medina et al., 2015); and curriculum adaptation using a ML pedagogy-based (Cunningham, 2021). For instance, Losada and Suaza (2018) acknowledge the benefits that a pedagogy of ML brings to a language class and encourage language learning that makes more sense to students. This study is valuable in terms of finding alternative pedagogical strategies, supported on a pedagogy of ML to engage language learners in real-life communication.

MM publications had two standpoints: the pedagogical and the didactic. From the pedagogical perspective, there is research related to the development of MM communicative competence (Rubio-López, 2024), the relationships between actions and learning environments in relation to MM (Escobar-Almeciga & Brutt-Griffler, 2022; Farías, et al., 2007; Quintana, 2020), and the impact of MM on foreign language learning settings (Maturana & Gálvez, 2021). From a didactic perspective, MM texts are addressed as dynamic strategies for learning a foreign language, and didactic relationships are found with analogous, digital, and live texts.

Handwritten texts such as the diary represent a didactic possibility of approaching the language by embracing the analogous in MM (Villalobos, 2017); experiences with music (Morales, 2008), videos (Kaneko-Marques, 2015; Ochoa & Ortiz, 2018), and video games (Galvis, 2011) constitute MM texts that, when contextualized, mediate between language and learners. Moreover, live texts such as karaoke (Rengifo, 2009), and theater (Gualdrón & Castillo,

2018) connect with students' worlds and display possibilities for real-life language use. Also, memes (Aedo & Millafilo, 2022), and WhatsApp (García-Ponce et. al, 2023) appear as new ways to communicate, through digital media live.

Studies on PSTs' education have mainly addressed beliefs, identity, and reflection on the practicum, with an emphasis on what students conceive about their training as language teachers (Cota & Ruiz-Esparza, 2013); how they perceive their classes (Villarreal et al., 2016); as well as the role of beliefs in language education (Castellanos, 2013; Períñan-Morales, 2022). There were studies related to the construction of identity in language teachers (Pérez-Gracia et. al, 2022; Posada-Ortiz, 2022); and gender perspectives (Aguirre-Garzón & Ubaque-Casallas, 2024; Escobar & Gómez, 2010); while others were concerned with making experiences and discourses visible (Ormeño & Rosas, 2023). All these works have contributed to PSTs' education to diminish the reality shock (Farrell, 2015) and to better prepare them for decision-making in their novice years. Knowing the current literature has contributed to our study, which specifically focuses on the influence of MM in PSTs current and future practices.

Methodology

The analytic nature of this study was approached from a hermeneutic perspective (Gadamer, 2004) as it motivates the interpretation of facts in a specific context. The author asserts that hermeneutics has three stages that constitute the practical path of our research: understanding, interpretation, and application. These stages are evidenced in Marshall and Rossman's (2011) seven phases of analytic procedure as an alternative methodological route that makes data analysis practical and detailed. To identify MM practices, understand, and analyze PSTs' experiences, while implementing a pedagogical MM proposal, we took a qualitative approach (Creswell, 2012). This allowed us to develop a detailed analysis of the participants' individual and collective enactment.

Context and participants

This study was developed during one academic semester. Participants were 26 PSTs enrolled in *Technological mediation in the teaching and learning of English class*, and six professors of the BA in Elementary Education. They all signed a consent form and adopted a pseudonym to cover their identity and yet keep their individual voices.

Data Collection Tools and Data Analysis

This research took place in three phases: Exploration, proposal execution, and data analysis. In phase 1, we administered two questionnaires to gather data on MM practices: One for PSTs (see Appendix A), and one for professors who had taught them in previous semesters (see Appendix B). Including professors in this stage gave us possibilities for comparing-contrasting PSTs' views.

In phase 2, we designed and implemented a pedagogical MM proposal framed within a ML approach, considering the NLG's (1996) ideas, which conceive teachers as tailors of their own pedagogical practices. The proposal included five moments: (a) Basic concepts, (b) Textile text, (c) Multimodal experience, (d) Funds of knowledge, and (e) Silent books. In phase 3, we analyzed data, taking into account Marshall and Rossman's (2011) seven phases of analytic procedure, which included: "Organizing the data, immersion in the data, generating case summaries and possible categories and themes, coding the data, offering interpretations through analytic memos, searching for alternative understandings, and writing the report or other format for presenting the study" (p. 403). Following these phases allowed the generation of themes and codes to find commonalities, perceptions, and participants' experiences through the process, thus providing validity to the data collected and reliability of the results found.

Additionally, a teaching diary, product of our observation and analysis of participants' perceptions, reflections, and reactions to the activities developed provided information to help analyze the experience. The teaching diary also worked as a space for collecting and registering key phrases, reflections, and significant expressions shared by the participants during the activities. This detailed breakdown of the data gathered contributed to a deep analysis of participants' learning experiences along the project and, therefore, to reaching the goals proposed. Audio recordings and photographs were used as instruments to document participants' interactions and narrative processes throughout the intervention.

Analysis and Discussion of Results

In this section, we portray the data analysis according to the research phases proposed. In this way, to identify multimodal practices implemented by students and professors of the BA in Elementary Education, we gave each group a questionnaire, then generated categories that illustrated their perception and use of technological tools in school and daily life. [Medina et al. \(2015\)](#) consider that “multiliteracies and digital tools are suitable for drawing or at least drafting the first letter of a re-writing of the world” (p. 46). Thus, finding out about the use of technology in participants’ lives was the gate to exploring multimodal practices. According to Lotherington and [Jenson \(2011\)](#), “multimodality does not necessarily utilize digital technologies, but digital technologies intensify multimodal possibilities” (p. 227). Following, the first three categories are based on PSTs’ insights, and the next two illustrate professors’ views. The excerpts in these five categories are taken from the answers provided in the questionnaires.

Technological Tools Make my Life Easier

PSTs stated that they used technology for language learning when they approached digital resources, apps and websites, and to solve everyday problems when they were at home and used appliances. Giovana asserted, “technology is everything humans create using their intelligence to improve and do daily tasks easier, for example a pair of scissors”. They acknowledge that digital resources for learning bring many challenges but are an ally for schoolwork and to facilitate everyday life.

Adding to this, David stated that “technology is a set of tools that make different life tasks easier.” They did not limit technology to digital resources but expanded it to other facets of their lives. Accordingly, [Prensky \(2001\)](#) asserts that digital natives “have spent their entire lives surrounded by and using computers, videogames, digital music players, video cams, cell phones, and all the other toys and tools of the digital age” (p. 1); this explains why they connect to technological devices in such a natural way. The author argues that the instantaneity of digital resources that new generations have at hand explains how they relate to it in their everyday lives.

The Sky’s the Limit

PSTs associated their use of technological resources with the ones their professors introduced to facilitate learning. They listed apps and websites that they have come across, and highlighted some classes, mostly language classes, in which their professors used digital resources. Carla said, “most of the time or perhaps all the time they show us digital platforms or resources that we have already worked with,” while Liz admitted “teachers have taught me about different technological resources and strategies to use them correctly for learning English,” thus they valued the use of technological resources in class. The list of technological resources PSTs used to exceed by far the one they acknowledged to have been introduced by their professors, which is, on the one hand, a product of generational difference and, on the other hand, the theory-to-practice paradox. That is, when asked, we may remember lots of resources which we might not use because of several reality shocks ([Farrell, 2015](#)) we encounter in the classroom.

Between Autonomy and Plagiarism

There is awareness of the ethical issues behind the use of digital tools, including artificial intelligence (AI) tools; however, participants stated that they mostly used them to generate ideas for school tasks. They remarked how these tools had given them resources to work collaboratively and to continue learning language on their own. Liz mentioned “they allow personalized learning at my own pace, encourage interaction through resources like videos and quizzes, and provide access to a wide range of educational content.” It is remarkable how PSTs connected their language learning experience with their future careers, showing identity traits in their learning-teaching praxis ([Farrell, 2015](#)).

They commonly projected these resources to their own future lives as teachers and acknowledged the potential of educational resources as noted by Ivan: “I think these apps offer great didactic, pedagogical, and educational

opportunities.” Notwithstanding this, they affirmed that there are critical issues behind digital resources and the use of AI. To this, Marcia stated “they make me lazy and hinder critical thinking.” Although they mostly recognized the positive side of technological advances for education, they also mentioned the need to verify information found and to accredit authors when using their work. They always had teaching in mind; thus, they often studied the possibilities that digital resources brought to language development and to other areas of elementary school education. Accordingly, [Nieto \(2018\)](#) acknowledges how teachers influence and are influenced by their surroundings, which contributes to their identity and helps them construct their teaching practices.

Yes, I do! But Fair and Square

Professors see digital tools as a possibility to have more lively lessons, contribute to students’ autonomy, provide personalized feedback, approach gamified assessment, enhance communication and interaction, and promote intercultural learning experiences. When asked about their use of digital tools in the classroom, they said: “Yes, I do! No doubt, nurtured with critical awareness of their use.” Johan argued, “digital tools allow me to be more efficient and practical in my work and life.” He also listed a series of tools like those provided by students. Clarisa asserted “I use what is fair, respectful, and not harmful to others”. They are aware of the ethical and social responsibility behind the use of digital tools, including AI, and although they use it and encourage PSTs to do so, they want them to develop critical thinking skills, thus they advise its honest use. Accordingly, Professor Karen affirmed, “I promote academic honesty; I supervise my students’ work, so they don’t use AI dishonestly; I want to make sure it is their own work.” There is thus constant negotiation between professors and students about the potential of digital tools for language learning, and the many digital resources they can access, while academic honesty is promoted and cultivated. As argued by [Jewitt \(2008\)](#), a pedagogy of ML engages critically and directly with students’ values and identities; therefore, permeating their learning practices.

Cool, Fun, Flexible for Engaging in the Lesson

The use of digital resources for language learning is connected to fun, interactive, creative and engaging lessons. As affirmed by Marcos “digital resources just make teaching cooler and more flexible.” They also contribute to life-long learning as proposed by Karen “interactive lessons promote intercultural communication and meaningful learning.” Nevertheless, they highlighted some drawbacks they have found because of the context in which they teach. Martha mentioned “there are connectivity issues and sometimes devices don’t work.” This makes the use of digital resources not always available, but it also encourages creativity and lesson plans that include other multimodal resources. To this, [Villalobos \(2017\)](#) introduces the use of handwritten texts, such as the diary, as a representation of a didactic possibility for approaching the language by embracing the analogous in the MM.

Another drawback mentioned was the amount of information students are exposed to, which can result in superficial multi-tasking. In view of that, Johan stated, “social media distracts, so learners do not always focus on the task.” Additionally, they mentioned students and professors limited digital literacy skills. In this regard, introducing new digital tools was a possibility to have a ML approach that gives lessons a broad literacy perspective, thus awakening synesthesia, that is, the possibility of meaning-making through the combination of all our senses ([Kalantzis & Cope, 2012](#)). All in all, students and professors’ views revealed MM practices they performed in their daily academic tasks, which included the use of digital resources to develop language skills and the awareness behind their ethical use. This provided information for developing a pedagogical multimodal proposal that could contribute to PSTs’ language learning experience.

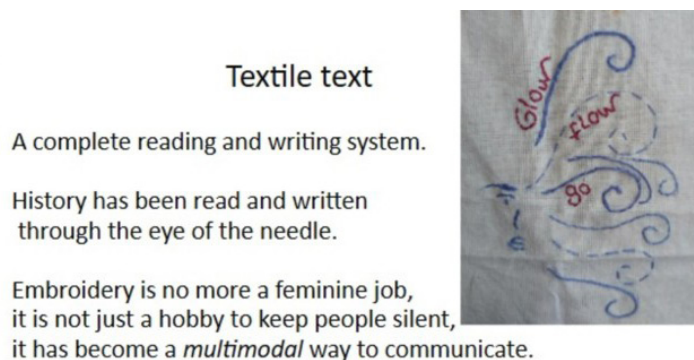
Following, we introduced the data that contributed to developing phase two. For this, we implemented a pedagogical multimodal proposal, framed within a multiliteracies approach. We summarized, categorized, codified and interpreted the results of the process developed. Subsequently we present categories of analysis based on our understanding and connected to theoretical illustrations and examples taken from the participants’ experiences. We started with the following three moments including: (a) Basic concepts, (b) Textile text, and (c) Multimodal experience. Here, PSTs unveiled concepts related to the world of digital literacies, multimodal literacies and their background knowledge and experience. The excerpts presented emerged from the teaching diary.

Say it, No Matter What!

Participants had the challenge to explore literacies and multimodality related terms, which they made in cooperative groups to negotiate meaning and later share their understanding with the rest of the class. Their role as future teachers (Nieto, 2018) was highlighted as they took turns leading, listening to and sharing ideas. Although it was possible for them to understand and explain the concepts, as is the case of participants Sofia and Ana who prepared an interactive game, Liz and Giovana who designed flashcards to encourage vocabulary building through visual aids, and Pedro and Ivan who presented a fable with music and visual images “to help diversity learning” as they mentioned, Julieta and Lucy tested their partners’ knowledge of multiple apps and digital resources for language learning. Nonetheless, there were also difficulties for addressing their peers as was the case of Carla and Simon who had a hard time giving instructions to their partners. Additionally, most students were more concerned about form (images, audios, digital resources) than content; they cared more about designing fancy material to explain the concepts assigned than about content itself. This time they privileged what their presentation looked like and how interactive it was. Accordingly, Rodriguez (2012) advises on the need to integrate language as a vehicle for learning to develop meaningful practices; this also encourages the use of digital resources with a purpose.

Reading Text, Building Text

Figure 1. *Presentation: Textile Text and Multiliteracies.*



Source: Photograph taken by the Authors.

Figure 2. *Handmade Quipu's Experience.*



Source: Photograph taken by the Authors

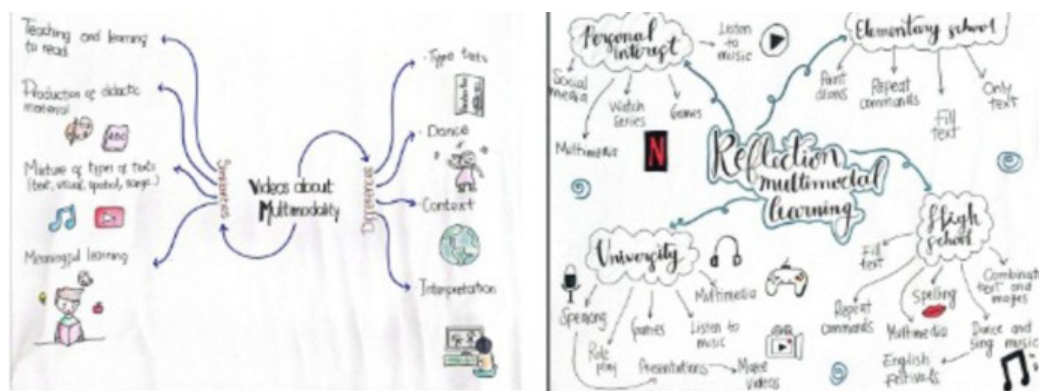
Exploring a multiplicity of texts gave PSTs possibilities of engaging with the multiple modes in which text is represented. After introducing MM literacies (Van Leeuwen, 2017), and textile texts to students as other ways of communicating that have permeated societies (Gordon, 2003), presenting examples of textile texts beyond a nationalist perspective (Dervin, 2015), including several countries and our local city and university context, and challenging gender

stereotypes beyond embroidery, we encouraged participants to tell their own stories through the knotting of a Quipu, as a system to register or remember words or sentences that communicate (Curatola & De La Puente, 2013). Using four colors of yarn, each evoking an experience, as follows: Red for love, green for nature, purple for challenges and yellow for future, PSTs tied knots representing evocative moments in their lives, and so they were encouraged to tell their individual stories. This was a space for going back in time and remembering those significant people, places and events that had made part of their lives. Julieta said “I am going to cry” when she reminisced about her absent father in her childhood. Threads as stories could be connected; this way Juan knotted two colors of yarn together and stated, “I connect red with purple because love is a challenge for me.” And in other cases, one color could be omitted as is the case of Dana who said, “I had no childhood, it is sad,” so she started knotting her red yarn starting in her teenage days.

Building and sharing texts among peers was comforting and gave them confidence. Their stories connected image, action, graphic and sound (Jewitt, 2008, Van Leeuwen, 2017). Diego affirmed “we can read and write or build texts with our hands,” while Lorena commented “I could see the different texts; digital texts is not the only form of MM, there are other texts that may be MM, for example a printed poster.”

In this line of thought, and with the goal of establishing connections between their past and current practices, we encouraged PSTs to recall and present in a three-minute video clip their use of MM texts during their English learning experience. For professors not to be the unique audience for their videos, they joined in small groups to watch them, to find commonalities in their narratives, which were afterwards shared in a mind map. It was commonplace for them to talk about their elementary school years, while some mentioned remarkable classes at university where they had lived MM literacies. They acknowledged that learning took place with the use of different digital resources; they especially mentioned video clips, songs, podcasts, movies, interactive platforms and TV series in the digital realm, and puppets and books in the analogous realm (Villalobos, 2017). Jorge, for instance, connected to Van Leeuwen's (2017) principles of MM as he mentioned that “color, visual experience and context make the difference in texts.”

Figure 3. *Posters: Multimodality and Education Experiences.*



Source: Photograph Taken by the Authors

Figure 3 above portrays two posters designed by PSTs, which collect memories of digital literacies at school and other literacy practices (Barton & Hamilton, 2000) they undertake autonomously nowadays, as they see the value of using resources, they have at hand to improve their English skills.

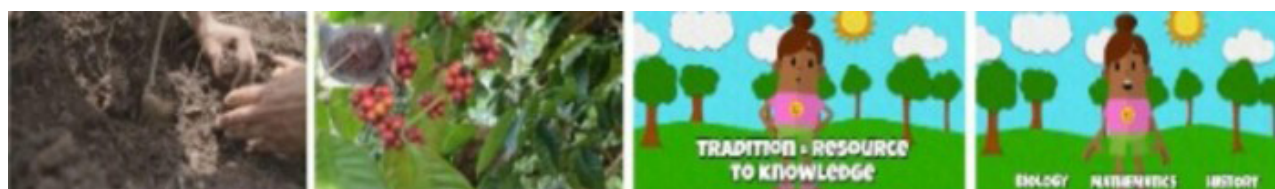
After scaffolding on PSTs' multimodal practices, we deepened into the telling of more personal stories from their (d) funds of knowledge, which are home-based experiences to nurture school literacy projects (González et al., 2005); and the making of (e) silent books. Students were now more open to sharing and eager to build and narrate text. They discovered the power behind stories and had the desire to talk about their own backgrounds, as a form to potentiate their learning now and to foresee themselves as teachers.

I Must not Silent Be

“My family grows *chontaduros* and I brought some today to share” (Ashley). This was Ashley’s introduction to her life narrative, in a class aimed at sharing our funds of knowledge, a space to know PSTs’ unique stories (Adichie, 2009). Stories were being woven, and as professors, we were excited to see participants share visual texts presented by their avatars and find commonalities among them. They were interested in knowing their partners’ backgrounds, their family traditions, their role in the communities, the ingredients they used for preparing *dulce de leche* or *tamales*, and the ways they celebrated Inti Raimy or new year. Funds of knowledge (González et al., 2005) thus not only serve the purpose of localizing the curriculum, but also of developing intercultural understandings, while strengthening relationships among people we share with.

“The coffee we drink comes from my grandfather’s farm; he passed this knowledge to my father, and he passed it to me and my brother. Through growing coffee, I have learned patience because the process takes time” (Valeria).

Figure 4. Valeria´s Funds of Knowledge Presentation.

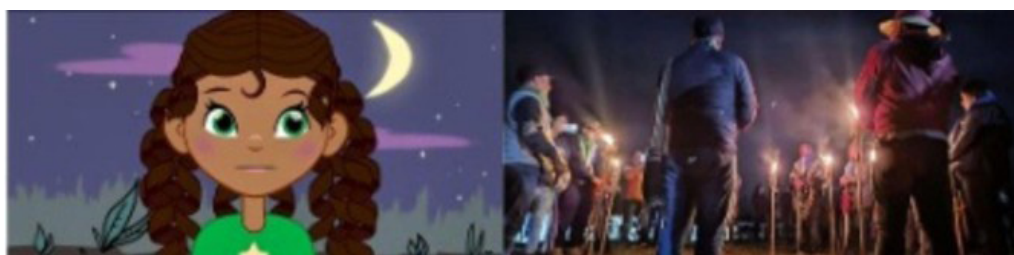


Source: Photograph Taken by the Authors.

Valeria talks about gender roles in her family as something naturally inherited as part of the coffee process; she feels this knowledge is hers and talks about it supported by images that make up a video clip, as presented in Figure 4. Leaving her shyness behind, and enacting her knowledge, she connects it with school subjects, and proposes a curriculum that is not mandated, but co-constructed with the community; a curriculum in which her family role is outstanding. She affirms that “learning becomes relevant to students when we connect what we do in the classroom with real life.”

“A new year is a new beginning,” Eliza asserts, while she talks about her Indigenous *Coconuco* community; a town that makes her feel proud and identified. A place where she and her family have learned to value water and sunrise, to know the moon phases, and to understand that the community is the main learning space for all its members (see figure 5); so, does she state, alluding to funds of knowledge theory “what we learn in the community can indeed serve for classroom instruction.”

Figure 5. Eliza's Funds of Knowledge Presentation.



Source: Photograph taken by the Authors.

Kelly is delighted to share a unique tradition in which everyone in her large family gets involved (see figure 6), including cousins, grandparents, and neighbors. She presents a step-by-step process that makes anyone who sees it feel part of this adventure. Making *dulce de leche* is the moment in which they reunite as a family. Everyone goes back to town and takes an active role chopping, mixing, talking or serving, and this is what makes this preparation exceptional for building family relationships.

Figure 6. Kelly's Funds of Knowledge Presentation.



Source: Photograph taken by the Authors.

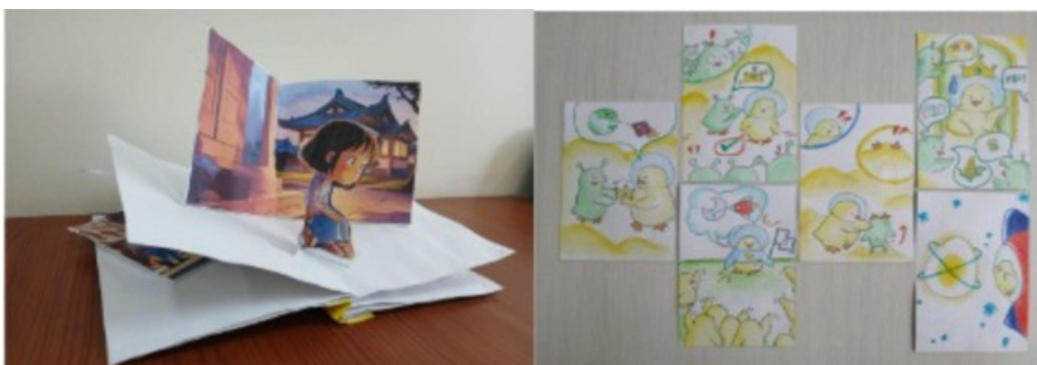
It is a fact that making the school-home connection (Dewey, 1989), using MM literacies, and opening spaces for telling their own stories, kept students talking, helped them know that their stories matter (Adichie, 2009), and that we can all learn from them. Projecting these stories, opened possibilities for them to dream of a school in which their students' stories would matter; a school in which it is likely to build more localized (Canagarajah, 2005) teaching practices.

A Chatterbox in me

Make your own story, make it new, make it work. The introduction of silent books gave PSTs possibilities for creating their own texts. As part of a global literacies workshop, we read global books, which according to Short et al. (2016) refer to "any book that is set in a global context outside the reader's own global location" (p. 5). We wanted to take advantage of how global literacies potentiate citizenship to meet the principles of a ML approach. First, we read the silent book titled *the Red book* (Lehman, 2004), thus taking turns, we recreated the story. Then, in pairs, they chose one of many global books we brought to class, based on which they were to create their own silent book.

The process of designing a book, which could have as many versions of a story as readers would be, made them care much about the design, creation, and organization of images. Some developed digital projects, which they then printed, while others drew and colored, which made it more authentic (see figure 7). The challenge was to share the book with an unknown audience; for this, they visited other classrooms to tell their stories. Nevertheless, not having a script they could read, encouraged their freedom of making up a story every time they read it to a different group. José affirmed "memorizing was not helpful; it was better to describe and add new elements every time I retold the story." Jessica stated, "when I didn't remember a word, I explained the idea, and it was fun" (see figure 8). This was a multimodal practice that helped build confidence and encouraged intercultural communication, which was promoted in the global books they had originally read.

Figure 7. *PSTs' Silent Books.*



Source: Photograph taken by the Authors.

Figure 8. *PSTs' Silent Books Oral Presentations.*



Source: Photograph taken by the Authors.

This last exercise closed a pedagogical multimodal proposal, framed within a ML approach, which contributed to PSTs' use of multiple modes of expression (Jewitt, 2008), while connecting with their English learning process; while it provided them with elements for their future teaching careers. MM gives way to communication paths that stay open no matter the resources we have at hand.

Conclusions and Pedagogical Implications

PSTs' and professors' multimodal practices encompassed digital and analog experiences that enriched language learning and intercultural communication, evidenced in the integration of multiple modes of narratives about real-life contexts and reflections on their own practices. These practices contained real-life experiences and explored meaning making through color, sound, image, gesture, and movement, reinforcing their identities and promoting ethical and critical use of technology, especially regarding AI. Through a ML approach, we fostered meaningful, inclusive learning environments grounded in PSTs' funds of knowledge. Through storytelling, textile texts, and digital creations, it was possible to design opportunities for them to express themselves and engage with content in meaningfully and contextually relevant ways, which equipped them with the skills to critically and ethically use digital tools.

The pedagogical implications of integrating a ML approach highlighted the importance of embracing diverse forms of meaning making, which validated PSTs' cultural and personal knowledge, positioning them as active

participants in the learning process. Activities such as textile storytelling, silent books, and digital projects helped bridge students lived experiences with academic content, fostering intercultural understanding and strengthening their emerging identities as educators.

It is essential to highlight that one limitation we had was the preconceived notion of students as digital natives (Prensky, 2001); however, along the study, we redirected some activities to engage PSTs in MM practices and the use of digital resources with an educational purpose. Another limitation was variations in students' access to digital devices or stable internet connectivity to fully participate in the multimodal activities; nevertheless, this constraint was mitigated by relying on the technological resources provided by the university. This experience motivated us to develop future work in our academic program that deepens the potential that MM practices may have, as this contributes to other teacher education contexts. Future studies are encouraged to explore these practices across diverse educational contexts to deeply understand their impact.

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Appendix A. Pre-service teachers' questionnaire

Pedagogy of Multiliteracies in Elementary Education Pre-service Teachers

1. What do you understand by technology?
2. What is the difference between Analogue and Digital technology?
3. Which technological/digital tools do you use daily?
4. Within your educational process at university, have teachers motivated or guided their teaching processes using digital resources? Share an example.
5. How do you describe your level of responsibility with respect to the ethical use of digital technology such as artificial intelligence?
6. What technological tools do you know that can be implemented in classrooms to develop Spanish or English classes?
7. What is the didactic, pedagogical and educational potential of the technological/digital tools you use daily?

Appendix B. Professors' questionnaire

Pedagogy of Multiliteracies in Elementary Education Pre-service Teachers

1. What do you understand by technology?
2. Along your teaching process, have you guided your practice using technological/digital resources? Share some examples.
3. How do you describe your level of responsibility with respect to the ethical use of digital technology such as artificial intelligence?
4. What is the didactic, pedagogical and educational potential of the technological/digital tools you use daily?
5. Mention some challenges teachers may face when using digital tools in their classes

