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Multilingual, Multimodal, and Multiliterate Languaging Practices Across Contexts

DISSERTATION

submitted in partial satisfaction of the requirements
for the degree of

DOCTOR OF PHILOSOPHY

in Education

by

Alejandro Granados Vargas

Dissertation Committee:
Professor Elizabeth Peña, Chair
Professor Julie Washington
Professor Rossella Santagata
Associate Professor Laura Enriquez

2026

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DEDICATION

To

my mother, husband, and biological/chosen family who have supported me along the way.

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ABSTRACT OF THE DISSERTATION

Multilingual, Multimodal, and Multiliterate Languaging Practices Across Contexts

by
Alejandro Granados Vargas
Doctor of Philosophy in Education
University of California, Irvine, 2026
Professor Elizabeth Peña, Chair

This dissertation investigates how individuals engage in multilingual, multimodal, and multiliterate languaging practices across educational, home, and community contexts. Through three complementary studies, it explores how children from diverse linguistic and cultural backgrounds draw on their full semiotic repertoires to learn, communicate, and construct meaning. Collectively, these studies address the overarching research question: How do multilingual and multimodal practices shape learning and literacy among linguistically diverse and disabled children? In study 1, I take an ethnographic approach to explore how translanguaging enacted, constructed, and spatially represented in fourth-grade elementary classrooms in Southern California. I argue that multilingual children leverage language and familiar symbols in the classroom landscape to participate in mathematics discourse and navigate "language barriers" when there is no language in common among interlocutors. Findings demonstrate that attention to multimodal and semiotic resources, beyond language alone, enables more flexible and creative classroom meaning-making, positioning translanguaging as a powerful pedagogical tool. In study 2**,** I investigate how the "home literacy environment" been defined, operationalized, and represented in Speech-Language-Hearing Sciences (SLHS) research. Guided by the translanguaging literacies and multiliteracies frameworks, I conducted a Systematic Concept Analysis of peer-reviewed SLHS studies from the past 30 years. Data were analyzed to identify participant demographics, conceptual patterns of the Home Literacy

Environment, and underlying assumptions about literacy. Preliminary findings show a narrow focus on book reading tied to White, middle-class norms, underscoring the need for more equitable, culturally responsive frameworks in research. This limited conceptualization excludes the diverse and multimodal literacy practices present in many households. The study calls for a reconceptualization of home literacy that centers cultural and linguistic diversity to promote equity in SLH research and practice. In study 3, I examine how do emergent bilinguals labeled as disabled (EBLAD) with language-based disabilities engage in storytelling practices as they relate to their identities as multilinguals and disabled individuals. Using data gathered from caregiver focus groups, I documented the storytelling traditions and narrative structures used by these children. Analysis shows that participants employed rich, culturally grounded storytelling techniques that challenge deficit perspectives of bilingualism and disability and allowed EBLADs and their caregivers to connect to their identities as multilinguals and disabled through their language and literacy practices. These findings highlight the need for research and educational practices that recognize storytelling as both a linguistic and cultural resource in curriculum and intervention design.

Across studies, the dissertation employs ethnographic and conceptual methodologies to uncover how translanguaging, home literacy, and cultural narrative practices reflect and shape children's meaning-making processes. The findings collectively underscore that language learning and use are inherently multimodal, context-dependent, and culturally embedded. This work contributes to more equitable pedagogical, clinical, and research practices by expanding how educators and scholars conceptualize language, literacy, and disability within multilingual contexts.

INTRODUCTION

Language is an important cultural artifact people use to engage with each other and their world. *Languaging*, as a verb, describes the communication that takes place among people, in social contexts as something that people *do* rather than something that they *have* (García, 2009; Makoni & Pennycook, 2007). The concept of languaging challenges attempts to remove language from the contexts and people to be analyzed (García & Wei, 2014). These languaging practices include communication via multiple named languages (e.g. "English", Spanish"), language varieties (e.g., "Standardized American English", "Chicano English"), and modalities that recruit other forms of communication beyond language. Moreover, people language using symbolic systems that are not traditionally viewed as language, such as through art (Bradley et al., 2018), embodied communication (Blackledge & Creese, 2017) and cultural dance (de los Ríos, 2024). This is especially true for marginalized groups, such as racialized and/or individuals with disabilities who language in ways societies-at-large tend to pathologize (Flores & Rosa, 2015; Henner & Robinson, 2023).

There are two frameworks important to the three studies: translanguaging and a pedagogy of multiliteracies. Translanguaging describes the flexible use of all linguistic and non-linguistic semiotic resources to engage with the world (Li, 2018). Ofelia García describes translanguaging through a metaphor of an all-terrain vehicle to describe the nature of deploying a variety of linguistic and non-linguistic semiotic resources to navigate complex communication environments. She writes that people "need to develop wheels that turn, extend and contract, that make up for each other, which are able to turn in different directions" (García, 2009, p. 143). In other words, we do not merely use one language or even one modality but an amalgam of semiotic resources. A pedagogy of multiliteracies describes the multiple literacies and the modes

of representation that include (and go beyond) language (Cazden et al., 1996). These multiple literacies are used in tandem to create and interpret meaning and differ by cultural contexts. By adopting a multiliteracies approach, language scholars affirm that there are multiple ways to interpret and express ourselves to the world and resist monolingual and monoliterate views that delegitimize minoritized forms of languaging. In the field of speech-language pathology, students and future clinicians are often taught about receptive and expressive language. From a more expansive view of language and literacy, informed by translanguaging and multiliteracies, I am adopting the following definition of *literacy* from Keefe & Copeland: "Literacy is the collective responsibility of every individual in the community; that is, to develop meaning making with all human modes of communication to transmit and receive information" (2011, p. 97). Indeed, some scholars have argued that all communication, whether primarily linguistic in nature or not, is multimodal (Kress, 2005; Kusters et al., 2017; Li, 2018).

Social justice is an integral component of translanguaging and multiliteracies. Thus, power is at the center of these studies as well. Translanguaging scholars have urged us to not separate language from the socio-politico-historical contexts in which it has been used and developed (Cioè-Peña & Snell, 2015; Wei, 2024). Some have attempted to separate language from the speakers and the cultural-politico-historical contexts, what Mena and Garcia call "converse racialization" in an attempt to blanche language of its semiotic indexes of the people that use the language to make it profitable in a globalized world (Mena & García, 2021). Languaging and literacy occur within cultural contexts, which are linked to power and power imbalances. Adopting a multiliteracies approach to this study means that this research resists colonial ways of viewing languaging and literacy that tend to prioritize written language as the supreme form of literacy, and cultures that practice non-printed forms of literacy are deemed

illiterate (De Souza, 2016). As a result, the three studies in this dissertation aim to valorize the epistemologies of minoritized communities by centering their languaging and literate practices through what they value, rather than the linguistic and literate norms of the researcher.

Languaging and literacy practices happen in a variety of contexts, such as schools, home, and community spaces. The following three studies of this dissertation take languaging to three focal spaces: the school, the home, and community. In these spaces, I examine languaging as it is manifested in multiple languages, multiple literacies, and multiple modalities. In order to gain a more comprehensive understanding of how languaging practices manifest, it is crucial to examine language in a variety of contexts and for a variety of purposes. This dissertation investigates how individuals engage in multilingual, multimodal, and multiliterate languaging practices across educational, home, and community contexts. Through three complementary studies, it explores how children from diverse linguistic and cultural backgrounds draw on their full semiotic repertoires to learn, communicate, and construct meaning. Collectively, these studies address the overarching research question: How do multilingual and multimodal practices shape learning and literacy among linguistically diverse and disabled children?

In study 1, I ask: How is translanguaging enacted, constructed, and spatially represented in elementary classrooms? Using an ethnographic design involving participant observation in fourth-grade classrooms at a Southern California elementary school, I examined the creation and use of translanguaging landscapes. I argue that multilingual children leverage language and familiar symbols in the classroom landscape to participate in mathematics discourse and navigate "language barriers" when there is no language in common among interlocutors. Findings demonstrate that attention to multimodal and semiotic resources, beyond language alone, enables

more flexible and creative classroom meaning-making, positioning translanguaging as a powerful pedagogical tool.

In study 2, I ask: How has the "home literacy environment" been defined, operationalized, and represented in Speech-Language-Hearing Sciences (SLHS) research? Guided by translanguaging literacies and multiliteracies framework, I conducted a Systematic Concept Analysis of peer-reviewed SLHS studies from the past 30 years. Data were analyzed to identify conceptual patterns, participant demographics, and underlying assumptions about literacy. Preliminary findings show a narrow focus on book reading tied to White, middle-class norms, underscoring the need for more equitable, culturally responsive frameworks. This limited conceptualization excludes the diverse and multimodal literacy practices present in many households. The study calls for a reconceptualization of home literacy that centers cultural and linguistic diversity to promote equity in SLH research and practice.

In study 3, I ask: How do emergent bilinguals labeled as disabled with language-based disabilities engage in storytelling practices, and what purposes do these stories serve? Using data gathered from caregiver focus groups, I documented the storytelling traditions and narrative structures used by these children. Analysis shows that participants employed rich, culturally grounded storytelling techniques that challenge deficit perspectives of bilingualism and disability. Narrative practices had the following purposes: 1) linguistic border crossing, 2) community survival and protection, and 3) advocacy for marginalized populations. These findings highlight the need for research and educational practices that recognize storytelling as both a linguistic and cultural resource in curriculum and intervention design.

STUDY 1: Translanguaging Landscapes in the Elementary School Math Classroom

> Have them do it in both languages…Having them work with another student translating the information, turning my teaching into more visual things, like pictures, digital images, videos. I would do whatever it takes to help second language students and even English students who just need help…to see what I'm talking about. (teacher interview, 05/14/24)

> She [student teacher] tells me that the students were having a hard time connecting two equivalent fractions, like 2/10 and 20/100. She drew a rough sketch of pictorial representations of the fractions with the fractions written next to them to demonstrate to the students how they were equivalent. She shared with me that one of the students asked her to hang it on the wall, so she did. (fieldnotes, 02/15/24)

> I like how you're using tools in the room to figure out math. (teacher quote, fieldnotes, 02/21/24)

I open with the quotes above because they demonstrate two broad foci of this paper: 1) the importance on drawing on individual's entire semiotic repertoire that includes both linguistic and nonlinguistic symbols to communicate and make sense of curriculum and 2) the potential to leverage the physical environment (i.e., the classroom landscape) to support learning and communication. The first quote comes from a veteran fourth-grade teacher's response to how she navigates a linguistically diverse classroom that includes children who have grown up in the United States and newcomer students recently arrived from their home countries, typically

somewhere in Latin America. The teacher highlights the importance of recruiting the diversity of individuals' full linguistic repertoire by "having them do it in both languages" and working with their peers to translate information from an unfamiliar code (e.g., English) to a familiar code they both share (e.g., Spanish). This teacher also highlights the importance of recruiting multiple semiotic systems beyond only language to make meaning in her class for both "second language students" and "English students who just need help", such as "visual things, like pictures, digital images, videos". The second excerpt comes from a conversation with a student teacher about how she addressed student confusion about the equivalency of two fractions (2/10 and 20/100) by representing them in multiple forms (i.e., numerically and pictorially) on a sheet of paper and displaying it on the classroom wall at the request of her students. By displaying this artefact on the physical classroom landscape, she is providing students "tools in the room to figure out math".

Math can be represented across various semiotic modalities: linguistically, using words and grammar, and non-linguistically, using symbols and signs. The role of these linguistic and nonlinguistic symbolic artifacts is important to research given their roles in math learning and instruction (Espinas & Fuchs, 2022; O'Halloran, 1998; O'Neill et al., 2004). Mathematical symbols can potentially transcend cultural and linguistic boundaries (Waller & Flood, 2016) and therefore be accessible to individuals from various linguistic backgrounds, such as the following examples in algebra: infinity (∞), multiplication (x), addition (+), and subtraction (-) to name a few (Thomas et al., 2015). Traditional schooling in math also requires learning specialized vocabulary related to content knowledge such as the difference between *thousand* and *thousandth*, differentiating between the homophones of *pi* and *pie* and learning words that are not used frequently in other contexts such as *coefficient* (Thomas et al., 2015). Examples of

vocabulary across named languages with multiple meanings include “quarter” (i.e., a coin or one-fourth of a whole), “un cuarto” (i.e., in Spanish, a room or one-fourth of a whole), and primo, which could either mean “prime number” or “cousin” in Spanish (Moschkovich, 2007).

In addition to the role of language, it is also important to take the learner’s environment into account when investigating learning that happens in mathematics to understand the relation of place and learning, such as the classroom (Gorter, 2018; Hassinger-Das et al., 2018; Nasir & Hand, 2006). In school contexts, the school landscape is often used for instructional purposes such as displaying math calculations on whiteboards, wall posters with math content information, and projecting student work onto the walls to share with the entire class. The physical environment allows us to extend our cognition outside of ourselves to sociocultural artefacts in the landscape and can be manipulated to decrease a learner’s cognitive load (Choi et al., 2014; Cole & Engeström, 1993). Examining the use of environment (i.e., posters, language, and visuals on classroom walls) to support math learning can have practical implications for how school professionals design their school landscapes.

Given the role linguistic and non-linguistic semiotics and the environment may have in the math learning process, it is important to investigate how these may impact a child’s learning experience. I situate this study within the frameworks of translanguaging (García, 2009; Li, 2018; Otheguy et al., 2015) and linguistic landscapes (Gorter, 2013, 2018; Gorter & Cenoz, 2015), in what I will call *translanguaging landscapes* to describe the interactions teachers and students have with the classroom landscape to engage in translanguaging (i.e., drawing on a variety of linguistic and nonlinguistic semiotic resources) to engage in mathematics Discourse. I will start by describing extant research on translanguaging and its applications in mathematics and linguistic landscapes. Then I will describe the participants and setting for this study,

followed by an analysis and results of data generated. Practical implications relevant for school professionals will also be discussed.

Background

A Situated Perspective to Math Learning

Sociocultural approaches to learning have centered the local activity settings the child participates in, including the social and cultural process present in the learning experience (Cole & Engeström, 1993; Engestrom, 2000; Sannino, 2011). These activities are mediated through tools that are material, symbolic, and include other participants in the environment such as teachers and other students (Cole & Engeström, 1993). Moschkovich (2002) describes math learning, from a situated sociocultural perspective, as participation in mathematical discourse. Moschkovich provides the following questions as a guide to investigate math learning from a sociocultural perspective: 1) what are the situated meanings of words relevant to the context (i.e., mathematics learning), 2) what are the resources available to students to communicate in mathematical contexts, and 3) what Discourse practices do students participate in that reflect mathematical competence (J. P. Gee, 2014) This participation in mathematical Discourse requires learners to use a variety of tools, both symbolic and physical, to aid as mediators in the learning process (Nasir & Hand, 2006). Symbolic tools, such as language, need to be situated not "as input, but as a resource for participation in the kinds of activities of our everyday lives comprise" (Zuengler & Miller, 2006, pp. 37–38). Individuals tap into their communicative repertoires, the collection of linguistic and nonlinguistic symbols to function in multiple contexts in which they participate, as symbolic tools to aid in participation in math learning (Rymes, 2010). This constellation of symbolic tools is important to highlight, as language is usually integrated with other communicative practices, such as gesture, facial expressions, and

movements (Lemke, 1995). In summary, mathematical learning from a sociocultural perspective can be defined as participating in mathematical Discourse practices using a variety of semiotic resources to demonstrate mathematical competence (Moschkovich, 2002). This definition of mathematics learning will drive this paper.

Translanguaging

Translanguaging is a practical theory of language that describes how individuals utilize their linguistic and nonlinguistic semiotic systems and multimodal repertoires to learn, make sense, externalize thought, and communicate (García & Wei, 2014; Wei, 2011). Semiotic systems can be defined as a system of symbols that individuals use to make meaning such as images, sounds, and space (García, 2009; García & Wei, 2014). Multimodalities describe the communication practices that make flexible use of multiple semiotic systems (e.g., visual, gestural, linguistic) by weaving them together (Lim et al., 2022).

Translanguaging scholarship has focused almost exclusively on the linguistic repertoires individuals recruit in their communication practices (Kusters et al., 2017). As Li explained, "language users use semiotic resources, gesture, facial expression, etc., in conjunction with language to communicate with each other. From a Translanguaging perspective, asking simply which language is being used becomes an uninteresting and insignificant question." (Li, 2018, p. 26). Moreover, multimodal translanguaging scholarship has focused on how the body is a semiotic tool to communicate when linguistic backgrounds between speakers do not overlap (Blackledge & Creese, 2017), danza azteca (i.e., a form of dance) as a form of corporeal translanguaging (de los Ríos, 2024), the role translanguaging and spatial repertoires have on international student literacy (Gao, 2023), and the semiotic depictions of language and culture in the classroom landscape (Seals, 2020). Because named languages are de-centered in a

translanguaging perspective, all human beings can be thought of as having a natural translanguaging instinct, "an innate capacity to draw on as many different cognitive and semiotic resources as are available to them to interpret meaning intentions and to design actions accordingly." (Wei, 2016, p. 541). Translanguaging must also include an individual's system of non-linguistic symbols and multimodal repertoires that emerge in interaction with their environment to fully capture symbolic meaning making people engage in. It is through this multimodal conceptualization of translanguaging that individuals interact with their environments and dynamically use and learn new forms of linguistic, semiotic, and multimodal features to add to their repertoires. Consequently, communication can flow like a *corriente*, a river current, and teachers and students can facilitate this flow in the classroom to make sense of curriculum by not restrict it to one named language, one semiotic system, or one modality (García et al., 2017; Rodríguez & Krause, 2020).

Translanguaging and Mathematics in Schools

A translanguaging framework has been used in the field of education to support the language and learning of linguistically diverse youth. Applied to instructional settings, Rowe (2018) describes the following six principles to embed translanguaging into pedagogy: 1) valuing students' languages and cultures, 2) modeling translanguaging, 3) providing authentic opportunities for multilingual communication, 4) inviting two-way translation, 5) composing dual-language texts, and 6) connecting students with bilingual or multilingual audiences. Affirming one's expansive communicative repertoire through translanguaging pedagogy is a linguistic and social justice issue, as it allows learners to use more of their symbolic meaning-making repertoires to make more equitable classrooms (Wilks-Smith, 2021). For children who do not yet speak the language of the classroom, adopting a translanguaging pedagogical

approach allows students to demonstrate content knowledge that would otherwise be obscured by their unfamiliarity with novel linguistic codes (Abedi, 2011; García et al., 2017). Additionally, adopting translanguaging practices in math instruction can help teachers and students navigate diverse linguistic terrain when newcomers arrive in the classroom by allowing them to engage with mathematical texts using their entire linguistic repertoire (Christensen, 2024).

A translanguaging perspective is an ideal framework to apply to mathematics due to concepts often presented through linguistic, semiotic, and multimodal avenues (O'Halloran, 1998; Thomas et al., 2015). Linguistic, semiotic, and multimodal practices are inseparable in the production of math discourse, as they are all crucial components of mathematical semiotic systems (Nasir et al., 2008). For example, many symbols used in mathematics (e.g., "x", "+", "%") are used across cultures, transcending cultural lines (Waller & Flood, 2016). Translanguaging in mathematics guides our attention to how concepts can be represented in multiple ways (i.e., linguistically, semiotically, multimodally) that have been shown to support learning through more complex mental representations (Hunter et al., 2022; Morales Jr et al., 2024; Paivio, 2010). One of the major design principles for designing mathematics instruction identified in the literature is connecting language varieties with multimodal communication, such as listening, speaking, reading, and writing (Erath et al., 2021). For multilingual learners, it is recommended that multiple modalities, such as images, drawings, and gestures, in addition to home languages should be utilized in math instruction (Moschkovich, 2013). This recruitment of various semiotic systems through a translanguaging approach in math instruction allows educators to understand language-general competencies rather than construct-irrelevant and language-specific skills that could obscure mathematical reasoning (Abedi, 2011; García et al., 2017; Moschkovich, 2013). That is, allowing children access to their entire system of meaning-

making, both linguistic and non-linguistic, allows math educators to understand what children truly know when they are not restricted to using one named language or one modality.

Several studies adopt a translanguaging approach to mathematics to bypass construct-irrelevant emergent language skills by allowing individuals to access their entire linguistic repertoires. For example, Lopez et al. (2019) adopted a translanguaging approach to assessing math knowledge of emergent bilingual students. They provided dual language support in Spanish and English in various linguistic multimodalities (e.g., speaking, writing, listening, reading). They found that students had a positive perception of these supports and easily used them to access the math assessment based on their self-identified needs. Although there is some discussion of nonlinguistic semiotic systems in their study, the focus of the analysis was the linguistic repertoire of the students. Similar analytical patterns (i.e., emphasizing linguistic repertoires without including nonlinguistic semiotic repertoires) have been used in other studies that apply a translanguaging approach to math assessment and instruction (Christensen, 2024; Gandara & Randall, 2019; S. A. Marshall et al., 2023; Rodríguez & Krause, 2020).

An emerging body of work applies a translanguaging approach to mathematics that goes beyond linguistic semiotic systems to include nonlinguistic semiotic systems and multimodalities. Tai & Li (2021) investigated translanguaging in mathematics in a Hong Kong context in English medium instructional contexts to analyze how teachers use gestures, drawings, multiple named languages, and intonation to explain complex mathematical concepts. In their study, they use a combination of multimodal conversation analysis and interpretative phenomenological analysis to analyze a teacher's translanguaging pedagogical practices through video recordings. By focusing on the teacher's and student's use of linguistic, multimodal, and semiotic resources, they highlight how even in English-only instruction, multiple semiotic

systems can be recruited to participate in the math curriculum. Similarly, Tai (2022) found that translanguaging pedagogical practices, recruitment of multilingual and multimodal resources such as photos, technological aids, different language varieties, and gestures helped students understand scientific and mathematical concepts. Again, translanguaging practices were observed even when only one named language was used (i.e., English) as it was paired with metaphoric gestures and color to multimodally highlight key mathematical concepts. Moreover, Valencia Mazzanti (2024) investigated the relationship between young children's language use and mathematical learning through both linguistic and non-linguistic semiotic systems, such as concurrent uses of writing, gesturing, and drawing to explain mathematical reasoning. She found that paying attention to the system of both linguistic and semiotic repertoires the children used highlighted the complex mathematical ideas expressed that would be missed if one only paid attention to linguistic modalities, underscoring the importance of highlighting the constellation of semiotic systems necessary to engage in mathematics through a translanguaging approach.

Translanguaging Landscapes

The school classroom landscape contains many linguistic, semiotic, and multimodal information: student work, classroom rules and norms, language learning, cultural artifacts, and subject content information (Backhaus, 2006; Gorter, 2018). These landscapes can vary in their temporality, from artifacts embedded in the environment for extended periods of time to those that last only a few hours in what Hanauer calls *transitory linguistic landscapes* (Hanauer, 2012). Similarly, Brown's concept of the schoolscape is "the physical and social setting in which teaching and learning take place" where place interacts with written and oral language (2005, p. 79). These classroom schoolscapes serve several purposes, such acting as instructional aids, and are unique to a given classroom.

Linguistic landscapes have been used to describe the display of written language and visuals in an environment to convey a message to those who inhabit a given space (Gorter, 2013; Seals, 2015; Shohamy & Waksman, 2012). The concept of linguistic landscapes can be one way of tapping into the potential pedagogical utility of a school's landscape. The current conceptualization of linguistic landscapes has expanded the definition of what is included in a linguistic landscape to include extra-linguistic semiotic features like images and photos in addition to linguistic information (Shohamy, 2015). This expansion of the linguistic landscape to include extra-linguistic semiotic features relates to Scollon & Scollon's (2003) geosemiotics theoretical framework, which describes the social meaning of the physical placement of signs and the semiotic meaning attached to them. All semiotic systems, both linguistic and non-linguistic, occur within sociocultural contexts and a physical space (de Saint-Georges, 2004). Canagarajah (2012, p. 7) highlights the importance of taking into consideration non-linguistic semiotic resources when looking at communication practices contextualized in the environment: "...treating language as a tightly knit system that stands free of other semiotic resources, detached from the environment, a self-standing product, and autonomous in status distorts meaning-making practices". The "environment" Canagarajah references is closely related to what Li calls a translanguaging space. He describes a translanguaging space as "a space for the act of translanguaging as well as a space created through translanguaging" (2011, p. 1223). Canagarajah's call to contextualize language within the environment and Li's conceptualization of the translanguaging space also underscores the importance of paying attention to how linguistic and nonlinguistic semiotic systems are used within the schoolscape for language and education researchers. Integrating a translanguaging approach to the linguistic landscape of a school is integral to understanding how cultural tools, like language and non-linguistic semiotic

systems embedded in the environment, influence the learning and development of important academic subjects like mathematics (Nasir & Hand, 2006).

Researchers have applied a translanguaging approach to linguistic landscapes (Gorter & Cenoz, 2015; Seals, 2020). Translanguaging in linguistic landscapes has also been the focus of studies in the school setting to address literacy, culturally relevant pedagogical practices, and the construction of playful talk in mathematics (Bever & Richardson, 2020; Sayer, 2010; Seals, 2020; Tai & Wei, 2021). Furthermore, Szabó et al. (2023) describe the utility of translanguaging landscapes in mathematics lessons in Hungary by displaying numbers on the classroom walls in multiple named languages (i.e., Hungarian and Romani) that aid assessment and instruction for linguistically minoritized Romani-speaking children and their non-Romani speaking teachers. They found that both students and teachers were learning, as non-Romani speaking teachers were exposed to Romani numerical vocabulary, a historically suppressed language in Hungary.

While some studies have investigated translanguaging in a mathematics context, few studies have examined how students and teachers interact with translanguaging landscapes in mathematics classrooms to consider the multimodal nature of combining linguistic and nonlinguistic symbolic systems to communicate and make sense of mathematical concepts. Filling this conceptual gap can inform pedagogical practices that educators can then utilize as they intentionally and iteratively design their classroom spaces to serve students from diverse linguistic and cultural backgrounds.

Current Study

For the purposes of this study, I combine ideas from schoolscapes (K. D. Brown, 2005, 2012), geosemiotics (Scollon & Scollon, 2003), linguistic landscapes (Gorter, 2013, 2018; Gorter & Cenoz, 2015; Seals, 2020), and translanguaging (García, 2009; Li, 2018) in what I will refer to

as “translanguaging landscapes”. Although there is extensive work using a “translanguaging linguistic landscape” framework (e.g., Gorter & Cenoz, 2015; Seals, 2015), I elect to use “translanguaging landscape” (without specifying ‘linguistic’), as this allows me to highlight non-linguistic semiotic and multimodal repertoires in addition to the linguistic features used in the classroom landscape.

In this study, I investigate the following question: How do teachers and linguistically diverse students engage with their classroom landscape (i.e., semiotic resources embedded in the classroom walls) to participate in mathematics discourse?

Method

Positionality statement

Given the researcher’s role as instrument in qualitative research, it is important to provide a description of the lenses I bring to the data generation and analysis to understand the impact my positionality has on my research (de los Ríos & Patel, 2023; Yoon & Uliassi, 2022). My role as ethnographer means that I actively participate in the affairs of teachers and students to better understand their experiences, rather than act as a “detached, passive observer” (Emerson et al., 2011, p. 3). Therefore, several examples used to illustrate themes in the analysis of this study include actions involving me. Moreover, I grew up using linguistic codes associated with rural Mexican Spanish, so I found that I shared a cultural and linguistic background with most students at the school where I carried out this study. Given this shared cultural and linguistic background, I often served as an interpreter between children who spoke Spanish and were emerging in their English language skills and their English-speaking teachers who were emerging in their Spanish language skills.

I also recognize my outsider role as a male-presenting and male-identifying researcher in a classroom setting with women teachers may impact teacher actions, as they can potentially feel like they are being evaluated. Although it is impossible to completely eliminate this impact, I attempted to reduce it by abstaining from taking copious notes during my observations to highlight the "participant" part of my role as participant observer (Emerson et al., 2011). I also regularly practiced communicating with teachers about any type of support they would like given my background as a speech-language pathologist, a school professional they have all interacted with. Teachers were receptive to this, as they asked me to focus my visits on observations such as "equitable opportunities for students to participate in whole class discussions" and "seeing which students use math vocabulary and how often and which students don't participate as much on their own". I followed up with these requests with my observations and suggestions via email or in person during my next visit. By doing so, I aimed to mitigate my presence as an evaluator to present myself as a potential collaborator.

Setting and participants

The data for this study come from an educational ethnographic study spanning one academic year focusing on the language and literacy practices of teachers and students during math lessons at a small public elementary school that serves between 600 and 700 students in a small city in Southern California. The school student body represents a diverse linguistic profile, spanning many named languages in addition to English such as Spanish (90%), Korean (4.29%) Tagalog (1.90%), Vietnamese (1.90%), Arabic (1.43%), Urdu (.48%), and Khmer (.14%). About a third of students at this school are labeled as "English Language Learners" (ELL). At the fourth-grade level, the focal grade for this study, about 40% of students are designated as ELLs. Two newcomer students arrived in the middle of the academic school year from Latin American

countries in one of the classrooms I observed. However, they did not overlap as one student left the school mid-year, and the second student joined the class several weeks after the first student had left. The ethnic/racial composition using terms described by the schools is Hispanic or Latino (79.3%), African American (3.1%), American Indian or Alaska Native (0.5%), Asian (5.9%), Filipino (2.3%), Pacific Islander (0.9%), Two or More Races (2.7%) and White (4.2%). Teachers at this school have been undergoing recent professional development in Cognitively Guided Instruction (CGI), a framework used to understand student mathematical thinking implemented through story problems (also known as "word problems"), discussing student problem-solving strategies, and using this information to create classroom curriculum (Carpenter et al., 1996; Turner & Celedón-Pattichis, 2011). Through CGI, teachers enhance their own understanding of mathematics by interpreting student strategies for solving mathematics problems and using this gained understanding to plan their instruction. As such, one of the school's goals was to center mathematics-based discourse and use family and community linguistic knowledge as resources in mathematics classrooms. Specifically, the school district's goals were to intentionally plan learning experiences with language at the center, thereby supporting students to engage in each other's ideas. Given this focus on cultivating mathematics-based discourse through language and discourse as resources, teachers and administrators welcomed my participation as a language researcher.

The focal teachers for this study were four fourth-grade teachers across three classrooms: Ms. Barlowe, Ms. Williams, Ms. Choi, and Ms. Smith (all pseudonyms). Ms. Barlowe is an African American teacher with over 25 years of teaching experience. Ms. Williams is Ms. Barlowe's student teacher who is an African American woman currently enrolled in a teaching credential program. Ms. Choi is a Korean American teacher in her first year of classroom

teaching who took four years of Spanish in high school. Ms. Smith serves as the mathematics support teacher when this study took place (academic year: 2023-2024), where some of Ms. Choi and Ms. Barlow's students go to Ms. Smith for mathematics instruction to reduce class size during that hour. Ms. Smith has been teaching for over 15 years in various roles such as general education teacher and as a literacy intervention instructor. All classroom teachers conducted their classroom instruction in English.

All three classrooms were set up with cluster seating arrangements, with 4-5 students sitting in each cluster. A typical format for all three classrooms was the following: (1) warm-up activities such as choral counts, where students count in fraction increments in unison while the teacher writes the numbers on a hanging sheet of butcher paper, and multi-digit multiplication problems. Typically, these warm-ups were related to the next activity, but not always. All children were typically seated on the floor facing the teacher; (2) introduction of a story problem, where teachers led a brief discussion of what the story problem was asking with varying levels of front loading; (3) independent time in groups to think about the story problem, then time for students to work together in their groups at their desks after some time has been spent thinking independently; (4) whole class discussion where students shared their problem-solving strategies.

Data Generation

I use the term data-generation instead of data-collection (Graue & Walsh, 1998) to account for the iterative co-construction of the data involving me, the study participants, and our positionalities (Lyons & Roulstone, 2018). I conducted ethnographic fieldwork (Heath & Street, 2008) in school classrooms and occasional extracurricular events through participant observations. Data generated comes from field notes (Emerson et al., 2011), photographs, and informal interviews with teachers, students, and staff. The study occurred over 17 weeks

spanning one academic school year starting in October 2023 and ending in May 2024 with visits to 1-3 fourth-grade classrooms for 1-3 hours each visit (~1 hour per classroom) during mathematics instruction, totaling about 40 hours. Classroom visits occurred over consecutive weeks, barring school holidays or teachers communicating that classroom visits would be inconvenient (e.g., during school-wide testing). Although this study focuses primarily on data generated from three classrooms, this has allowed me to gain increased exposure to those classrooms. Ample exposure to a setting is important for researchers/ethnographers to have, as it helps with "building rapport with those studied, generating trust, increasing cognitive empathy, and expanding the range of issues about the people of context that the researcher comes to understand" in addition to helping me, as the researcher, become more sensitive to the subtleties of participants speech and actions that may not have been obvious in earlier visits (Small & Calarco, 2022). An ethnographic approach also allowed me to capture classroom practices that would otherwise go unnoticed in everyday math teaching (Christensen, 2024). I wrote field notes within 24 hours of each visit while observations were fresh in my memory aided by jottings and voice-recorded notes written and recorded immediately after my classroom visits (Emerson et al., 2011). Consequently, I wrote 55,000 words of observational field notes and took 70 photographs for this study. Interviews were conducted with teachers at the end of the academic year and asked questions regarding teachers' experiences with schools and districts focusing on improving mathematics learning opportunities for students. Questions asked in the interview included questions around emergent bilingual children such as: "If we think about emergent bilingual students in math lessons, what assets do you think they bring to the classroom community?", "Tell me about the programs for emergent bilinguals at your school.", and "Who do you collaborate with about instruction for emergent bilinguals?"

Given that the categories used for analysis are based on translanguaging theory, I utilized theoretical sampling to collect data until it reached theoretical saturation and no new properties emerge related to translanguaging and linguistic landscapes (Charmaz, 2012). At the same time, I remained open to discovery to expand on current conceptualizations to translanguaging by engaging in inductive coding and therefore allow for new themes to emerge from the data (Agee, 2009). To do this, I engaged in initial coding by using gerunds to allow me to focus on processes and remain close to the data (Charmaz, 2012). The coding scheme used for the analysis, therefore, was deductively (i.e., through components of translanguaging) and inductively (i.e. emerging themes from the data) constructed.

Analysis

I draw from the conceptual contributions of translanguaging and linguistic landscapes to analyze the interactions I, students, and teachers engage in with the linguistic and nonlinguistic semiotic information embedded in the classroom schoolscape during math time. I coded and analyzed field notes, images, and interviews using Dedoose (SocioCultural Research Consultants, LLC, 2016). The unit of analysis for this study is the translanguaging event, which are narratives in which individuals practice their linguistic and nonlinguistic semiotic repertoires in their physical contexts (Alvarez, 2014; Alvarez & Alvarez, 2016). I started the analysis by writing analytical memos to identify emerging themes in the data generated "to identify and explore initial theoretical directions and possibilities" (Emerson et al., 2011, p. 123). To write these analytical memos, I exported excerpts from the data by code, wrote the connections I saw in the excerpts, and searched for prior research to inform these connections. This process was cyclical and iterative. The themes covered in the findings came from these iterative analytical memos and the arrangement of codes relevant to the research question. The three main teachers

engaged in collaboration and participant review (C. Marshall et al., 2021), also known as member checks, to invite participants "to correct, edit, confirm, or disconfirm" (p. 52) interpretations and ensure credibility.

Findings

In this section, I will demonstrate how translanguaging is embedded in the landscapes by looking at the linguistic, semiotic, and/or multimodal resources used by me, students, and teachers during math lessons. I aim to answer the following question: How do teachers and linguistically diverse students engage with their classroom landscape (i.e., semiotic resources embedded in the classroom walls) to participate in mathematics discourse?

Drawing across named languages in the landscape

In this section, I will describe the potential pedagogical functions of including multiple named languages in the classroom landscape during math time. I found that translanguaging landscapes during math instruction were created with the intention to affirm diverse students' language practices and served to facilitate trans-lingual and trans-cultural math talk. I also found instances where the translanguaging landscape was a passive artifact that needed to be activated to fully leverage in math instruction.

Affirming language practices

There were several examples of teachers and students recruiting linguistic repertoires across named languages in the landscape that served to affirm the diverse language practices of the students. Teachers often shared with me their intention to utilize the landscape to affirm their student's language practices by leveraging the classroom landscape. Building on this, Ms. Barlowe shared the following in an interview when asked about what strengths emergent bilingual children bring to the classroom.

> ...they're using both languages to help each other figure it out and teaching the teachers at the same time. So, it's almost like we have double learning in here. You know, everybody has an opportunity to learn if there's someone in my room that speaks that language. Talk to them in that language, *we can put those Spanish words on the board* [emphasis added]. (interview, 05/14/24)

Ms. Barlow highlights the importance of allowing children to use their entire linguistic repertoire ("using both languages to help each other figure it out") to engage in the math curriculum. Emergent bilinguals can also teach their peers and "teach the teachers at the same time", engaging in "double learning". This learning can then be embedded in the classroom landscape ("we can put those Spanish words on the board"). By embedding the home language of emergent bilingual children on the board, Ms. Barlow is giving agency to Spanish-speaking children to craft the translanguaging landscape by embedding linguistic codes across named languages, and valorizing that mathematics Discourse can happen in multiple named languages through the translanguaging landscape to both the emergent bilingual children in the classroom and their monolingual peers.

Affirming of multiple named languages through the translanguaging landscape was observed in Ms. Choi's classroom as well. During one of my first visits to Ms. Choi's classroom, I was drawn by the poster pictured in Figure 1.

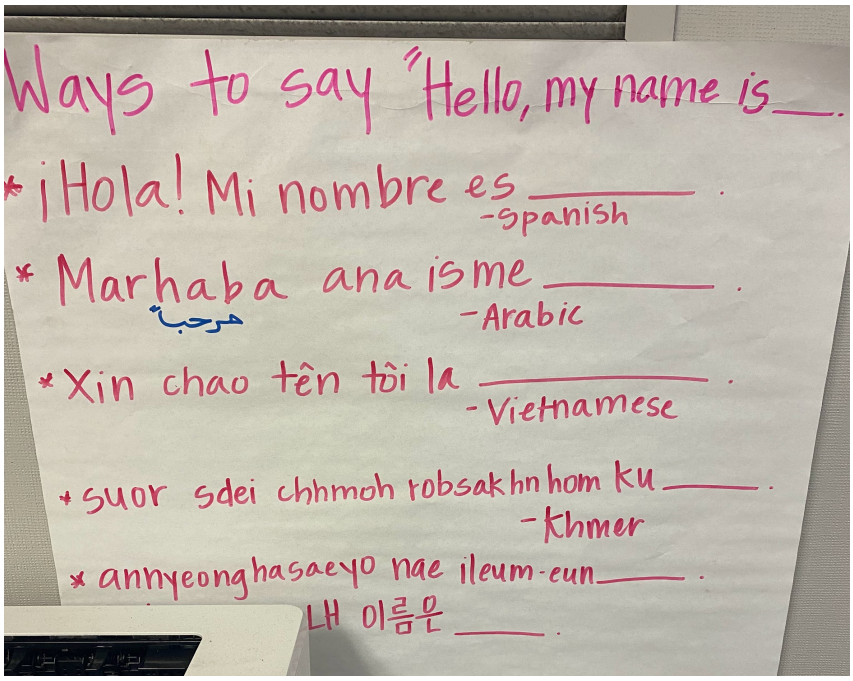


Figure 1: "Hello, my name is__." Poster

Ms. Choi shared with me that she made it in response to a student, Juan, arriving in her class not knowing any English. She told me that she wanted to "create an inclusive environment" (field notes, 2/1/24) for him, so she included all the named languages represented in the classroom in addition to English: Spanish, Arabic, Vietnamese, Khmer, and Korean. Ms. Choi shared that the blue Arabic script under the Latin script "Marhaba" was written by a parent who was attending parent-teacher conferences, illustrating how dynamic translanguaging landscapes can be when outside actors introduce new linguistic elements to the landscape (Dasgupta, 2002). This demonstrates how Ms. Choi followed the translanguaging *corriente* of the classroom through the landscape, allowing the dynamic linguistic experiences of herself, students, and their families to shape it (García et al., 2017). Ms. Choi's multilingual poster suggests that translanguaging landscapes do more than represent linguistic diversity; they serve as contested spaces where authority, participation, and legitimacy within the classroom are continuously negotiated for the sake of including diverse ways of participating in Discourse.

Ms. Choi also utilized linguistic codes across languages when creating transitory linguistic landscapes (Hanauer, 2012) to affirm the languaging practices of her linguistically diverse classroom. Toward the beginning of my observations, she frequently used translation programs to translate story problems on handouts for newcomer students who were emerging in their English language skills as well as an aid in daily spoken communication with them. However, providing translation for only one student on their individualized handout does little to create a translanguaging space (Wei, 2011). Furthermore, I noticed a change toward the end of the school year and my observational timeline. I observed that she projected the story problem for the first time in English and Spanish, as can be seen in figure 2. (fieldnotes, 5/16/2024).

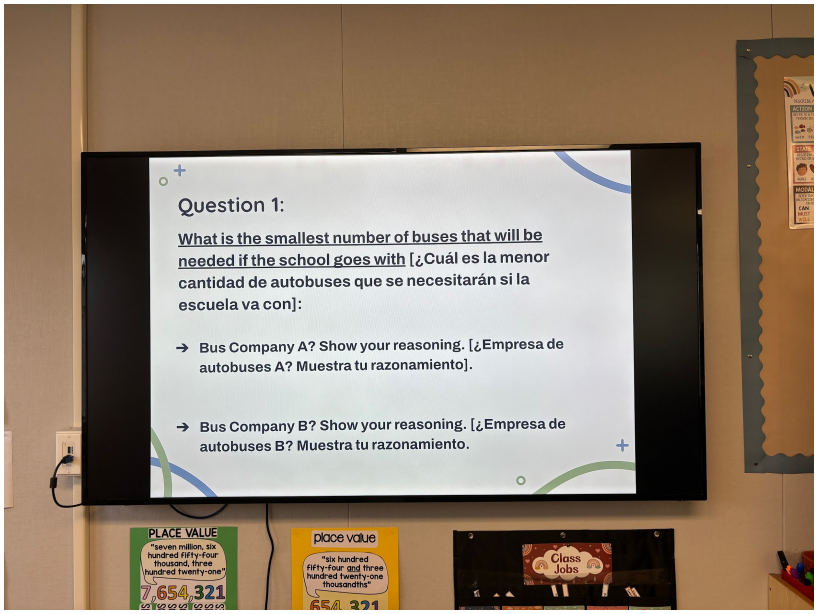


Figure 2: Translated story problem.

Ms. Choi, like Ms. Barlowe, is using the translanguaging landscape to validate multiple languages in setting the expectations for what it means to engage in math Discourse. These examples demonstrate actions by teachers to affirm the diverse linguistic practices of their classrooms to participate in mathematics Discourse, which is one of the design principles to create instructional spaces that promote translanguaging. As described by Rowe (2018):

> Teachers must explicitly (verbally and through actions) value the languages and cultures of all students…[and] show interest in students' heritage languages and model learning new languages from students. This positions students as experts with knowledge to be valued and shared. (Rowe, 2018, p. 32).

This valuing of languages and cultures is evident in how Ms. Barlowe's frames multilingualism as an asset within the classroom's transitory translanguaging landscape, specifically as students recruit multiple languages to "figure it out". The "double learning" Ms. Barlowe describes refers to learning in multiple named languages, but it also refers to double learning in that emergent bilingual children are learning and teaching by sharing their home languages to their peers and teachers during mathematics instruction. Language teaching that transcends strict vertical student/teacher hierarchies ("teaching the teachers") making the multilingual children experts through the creation of the translanguaging landscape (Freire, 1970). Ms. Choi is drawing from the linguistic diversity of her classroom to "create an inclusive environment" for her newcomer student, thereby affirming the language backgrounds of all students in the process to ensure that all students feel welcome to use their home Languaging practices to engage in content-specific discourse.

Translingual and Transcultural Mathematics Discourse

Affirmation of diverse language backgrounds across named languages provided opportunities for children to engage in transcultural and translinguistic math discourse. Students engaged with the landscape to engage in mathematics-related discourse in ways that centered languages and cultures outside of English/the United States. I observed this during one of my visits to Ms. Choi's classroom (field notes, 03/07/24). I overheard Huy, a Vietnamese-American boy, and two Latino male classmates sitting at his table talking about their interests in the

Japanese language. Intrigued, I approached them and sat at their table to join their conversation. When I arrived at their table, the boys quickly snapped their attention to the story problem on the sheet of paper in front of them as if I, an adult proximate to a teacher role, had caught them "off task". I tell them that I heard them talking about the Japanese language, and that I am learning Japanese now, attempting to connect over this shared interest. Huy shared that he wants to learn Japanese. I pointed to the poster in Figure 1 and asked them what they thought about adding Japanese to the list of how to say, "Hello, my name is___."

"My language is the one with the 'x'", Huy tells me, pointing to the poster, referring to Vietnamese. He continued to share with me the greeting written on the poster is how an adult would say "Hello, my name is…" and then shared with me how a child would say it, demonstrating metalinguistic awareness of Vietnamese linguistic discourse norms (García & Kleifgen, 2020). He then talks to me about the Japanese language, the initial topic of conversation when I approached him and his table mates. He tells me that, in Japanese, different counting words are used depending on what one is counting (e.g., money, people, the age of someone). I affirmed this, drawing on my own experience learning Japanese.

Although the vignette described above was the only instance observed of children engaging in translingual and transcultural mathematics discourse, it serves to highlight the variation that occurs when children interact with their translanguaging landscape to engage in mathematics discourse. Moreover, "...the goal in ethnographic analysis is not representativeness. Rather, the ethnographer seeks to identity patterns and variations in relationships in the ways that members understand and respond to conditions and contingencies in the social setting" (Emerson et al., 2011, pp. 192–193). This vignette highlights participation in mathematics-related discourse supported by the translanguaging landscape by tapping into the diverse cultural and linguistic

backgrounds and interests of the children rather than be limited to the mathematics topic set by the teacher that day. This excerpt demonstrates that the translanguaging landscape can spark cross-cultural and crosslinguistic conversation about mathematics even when no explicit mathematics information was contained in this poster. Here, the translanguaging landscapes provided an opportunity for interlocutors to engage in dynamic conversations that are responsive to the tasks at a given time in the classroom (i.e., solving a math story problem) and individual actors' interests (i.e., Huy and his interlocutors shared interest in learning Japanese). The translanguaging landscape of the classroom allows Huy to have a conversation about math that is relevant to his interest in learning Japanese, leveraged his metalinguistic knowledge of different named languages (i.e., Vietnamese and Japanese), and allowed him to forge connections with mathematics based on his background linguistic and cultural knowledge with me and his peers. The translanguaging landscape opened the opportunity to engage in math discourse by engaging in number talk through diverse cultural and linguistic means (Szabó et al., 2023). That is, Huy's translanguaging event was supported by being presented with a multilingual audience (Rowe, 2018) that consisted of me and his peers in conjunction with the translanguaging landscape.

Making the translanguaging landscape active

Throughout my observations, I noticed that the mere presence of multimodal semiotic information embedded in the translanguaging landscape was not enough to leverage to engage in mathematics Discourse for students. The translanguaging landscapes had be activated through interactions with teachers and/or other adults for students to use them to mediate their participation in mathematics Discourse. The following vignette demonstrates how the translanguaging landscape must be activated by drawing attention to it and embedding it in the culture of the classroom to leverage multiple named languages in teaching math. Toward the end

of the academic year, Ms. Choi projected the following story problem on the board, illustrated in figure 2 (field notes, 05/16/24).

She projected the story problem in English and provided a Spanish translation. Up until that point, about 8 months into my fieldwork, I had not observed Ms. Choi providing translation when projecting a story problem to the entire class. She normally provided a translation for story problems on handout sheets only for specific students who did not have the English language skills to access English language text and provided story problem handouts in only English for the rest of the class. This appeared to be routine, as demonstrated by a breach in this routine I observed when, for example, one student expressed confusion when he was given a copy with the Spanish translation and the newcomer student received a copy without a translation (fieldnotes, 02/22/24). These breaches to routines make visible the invisible norms of the classroom (Feldman & Orlikowski, 2011). Ms. Choi read aloud the written text in Figure 2 to the class in English but did not refer to the Spanish translation. The newcomer student, Juan, appeared to be confused despite linguistic codes (i.e., Spanish) familiar to him being embedded in the story problem display. He called me over, as I have been helping him interpreting and translating during my visits. He asked me if he should use the translation application on his tablet to translate the text, and I told him that there is already a translation, directing him to the Spanish text in brackets. He noted the text written in Spanish, then continued to work on the story problem.

This excerpt demonstrates that, even when there are linguistic codes across named languages embedded in the landscape, they need to be an active and intentional activity to be utilized by linguistically diverse youth (Dasgupta, 2002). Although Ms. Choi provided linguistic codes in English and Spanish when projecting the story problem to the entire class, allowing

students the *opportunity* to access a more expansive repertoire across two named languages, it appeared that this practice of projecting story problems in multiple named languages to the entire class had not yet become a part of the classroom routine culture, as demonstrated by Juan's lack of awareness that there would be Spanish text provided along with the English. To leverage the translanguaging landscape, it must be highly visible and also embedded in the classroom culture so they expect, or are made explicitly aware, of the translanguaging landscape to engage in during learning tasks (Alvarez & Alvarez, 2016). As stated by Rowe, "teachers can create authentic activities where translanguaging is not only encouraged but also socially visible and useful within a classroom space." (2018, p. 32). It was not until I guided Juan's attention to the Spanish translation that he was able to continue engaging with the story problem. Therefore, the translanguaging landscape is not a static part of the communicative environment but should be seen as a dynamic tool that must be actively engaged with to fully leverage to participate in mathematics discourse.

This collection of vignettes demonstrate how linguistic repertoires across multiple named languages were embedded into the translanguaging landscape and considerations for how to leverage them in the learning process. These linguistic resources were embedded across artifacts that range temporally from semi-permanent, like wall posters, to transitory, like projections. Linguistic features across named languages can be embedded using technological mediums, like translation apps and by tapping into the diverse multilingual repertoires of the everyday participants of the classroom and their families. Recruiting the multilingual repertoires of teachers, students, and their families to create a translanguaging space (Wei, 2011) that allows for actors to shape their environment through translanguaging and linguistic landscaping (Dasgupta, 2002; Gorter, 2013). Affirming diverse language practices in the landscape can signal

to students that they are welcomed to use their entire linguistic repertoire to engage in mathematics-related Discourse activities (Wilks-Smith, 2021). Tapping into multiple named languages in the translanguaging landscape has the potential to spark trans-cultural and trans-lingual math discourse and provide linguistic access to math curriculum for emergent bilingual learners. These excerpts also demonstrated that the translanguaging landscape must not be passive, but made active by, at the minimum, drawing attention to relevant features to scaffold student's use of the landscape to engage in math discourse, highlighting the role teachers have in facilitating translanguaging between the students and their environment.

Drawing on nonlinguistic semiotic repertoires in the landscape

In this section, I will describe the nonlinguistic symbolic and multimodal semiotic repertoires I observed being engaged by teachers and students in the translanguaging landscape, as these repertoires are important meaning-making resources (Li, 2018). Drawing from nonlinguistic symbols and multimodalities allowed students from diverse linguistic backgrounds to participate in math activities.

Increase access to multimodal participation in math discourse

The importance in integrating linguistic, semiotic, and multimodal resources in the translanguaging landscape was illustrated during one of my observations in Ms. Barlowe's class (fieldnotes, 02/25/24). Ms. Barlowe had just had an interaction with a student where she could not understand the students' reasoning for how she solved the story problem when the students tried explaining it through speech. Ms. Barlowe then addresses the entire class, sharing with them that they are imbued with "special kid powers" that allow them to speak in "special kid language". She goes on to say that this "special kid language" sometimes does not allow adults to understand them, the students, when they are explaining how they solved a math problem, and

that sometimes she will ask students to "draw a picture so Ms. Barlowe can figure it out". The "special kid language" and "special kid powers" Ms. Barlowe is talking about demonstrate the notion that recruiting semiotic and multimodal communication (e.g., drawing in addition to spoken language) to maximize their communicative potential to explain their math reasoning. In other words, Ms. Barlowe is framing the recruitment of nonlinguistic semiotic repertoires their students engage in through their "special kid language" to complement their linguistic explanations of their math solving processes and increase their communication effectiveness in engaging in mathematics Discourse with her.

This drawing on multimodal and semiotic repertoires was modeled in Ms. Barlowe's facilitation of story problems throughout the academic year. One example of the translanguaging landscape leveraged by Ms. Barlowe can be seen in the projection of the story problem in figure 3. (fieldnotes, 2/15/24).

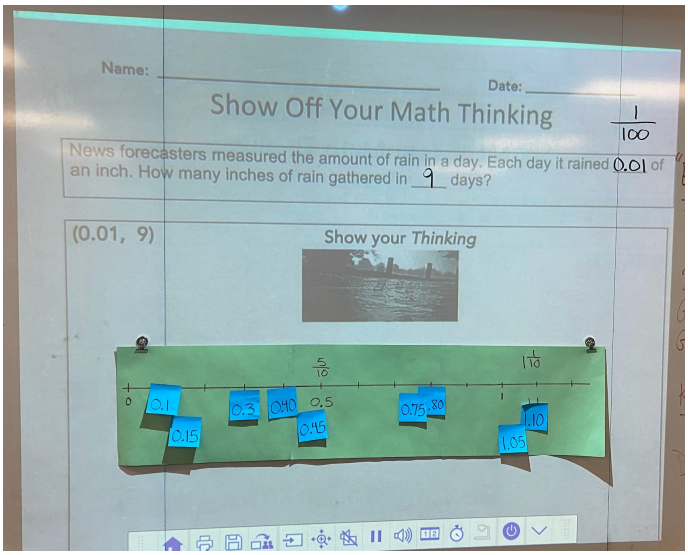


Figure 3: Projected story problem.

This is a projection of the story problem the children were working on about forecasters measuring the rain to practice adding decimals. The green sheet of horizontal paper held by magnetic clips is a number line showing the decimals and fractions between "0" and "1". Ms.

Barlowe facilitated an activity with the class where hands blue sticky notes to students with decimal numbers written on them to place on the number line. Additionally, Ms. Barlowe asked students to say the number out loud, prompting the class to say it in two ways (e.g., “0.15” as “zero-point-fifteen” and “fifteen hundredths”) before giving them the sticky note to place on the number line. Orlando, a student designated as an English language learner, volunteers to place a number on the number line. He gets up and walks to Ms. Barlowe and she gives him a sticky note. When he places the number in the correct location on the number line, several classmates cheer. The multimodal nature of the math activity allowed Orlando, a child labeled as an English language learner, to participate in mathematics discourse with his classmates. This was notable to me, as in previous observations he was not speaking much in class (fieldnotes, 10/12/24) and demonstrated difficulty explaining his math thinking in English in a spoken (fieldnotes, 10/12/24) or written modality (fieldnotes, 1/25/24) to an adult. Allowing him to use his multimodal and semiotic repertoire allowed him to access the activity with his peers and allowed his peers to celebrate him in turn. Orlando drew on his multimodal repertoire to co-create the translanguaging landscape by engaging his knowledge of spatial-symbolic understanding of where numbers go on a number line. Orlando, who in other observations, seldom participation in spoken mathematics Discourse, was able to demonstrate his mathematical competency by engaging in his embodied communication (i.e., placing the sticky note on the board) and engaging in knowledge of spatial semiotics (i.e., placing the sticky note on the correct location on a horizontal number line).

Unlike Ms. Barlowe’s example, Ms. Choi typically introduced story problems through speech and writing modalities throughout most of my field work. However, she did demonstrate an openness to include nonlinguistic semiotic resources in the classroom landscape to scaffold

emergent bilingual learner's participation during math time. This use of including nonlinguistic semiotic resources in the landscape allowed emergent bilingual children to participate in mathematics Discourse. During one of the warm-up activities in Ms. Choi's classroom, students focused on solving fraction and whole number addition and multiplication problems written on butcher paper (fieldnotes, 05/16/24). Two students offered different answers to the same problem: 3 x ⅓ + 2 x ⅓ because one student followed the order of operations and the other student solved the math problem linearly (i.e., solved the problem from left to right). Ms. Choi, sensing that students needed to review order of operations, reviewed the PEMDAS (i.e., Parentheses, Exponents, Multiplication, Division, Addition, Subtraction) acronym with the students that would help identify why the students arrived at different answers. Ms. Choi wrote "PEMDAS" vertically on a large piece of butcher paper and wrote in what each letter stood for as students verbally volunteered the correct terms, recruiting students' linguistic and multimodal repertoire through the written labels in one named language (i.e. English) and children's spoken responses. However, this presented a challenge to one student, Carlos, who had recently arrived from Guatemala and spoke Spanish and little English, according to him (fieldnotes, 04/25/24). I was simultaneously interpreting for him and noticed that he was having a challenging time following Ms. Choi's filling in of the poster in addition to my simultaneous interpreting. I sensed that the cognitive load of the math material being covered in addition to multiple linguistic stimuli was too much for him. I also wondered if adding nonlinguistic symbols would aid Carlos in his understanding and participation of the material, so I asked Ms. Choi if she could include the symbols next to the written word. Ms. Choi exclaimed that this was a good idea and included symbolic representations that corresponded to each term in a different color, thereby recruiting

the students' semiotic repertoires by using non-linguistic symbols (i.e., "( )", "x^2", "x", etc.) and color-coding the symbols in green as demonstrated in Figure 4 (fieldnotes 05/16/24).

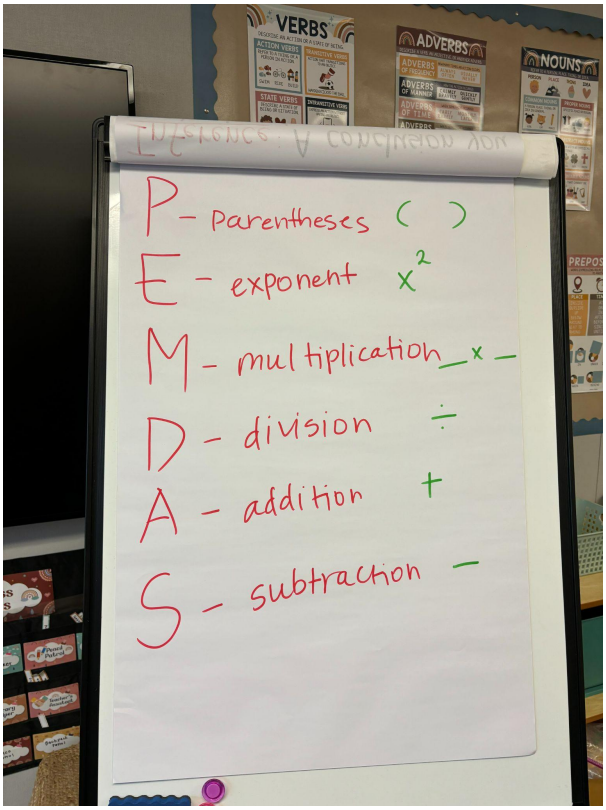


Figure 4: PEMDAS poster.

As Ms. Choi added the symbols, Carlos tells me that he knows whose answer is correct, correctly identifying the student who followed PEMDAS order as the correct way to solve the problem. Afterward, students transitioned to independent work time at their desks and Ms. Choi left the PEMDAS sheet out on the easel as a new addition to the translanguaging landscape for students to reference.

This vignette demonstrates that teachers can utilize additional semiotic features (i.e., mathematical symbols and color) in addition to linguistic repertoires (i.e., the written and spoken modalities in English linguistic codes) in the landscape to provide multimodal access to subject material. Additionally, this example models how a teacher can practice responsiveness to the

communicative needs of a linguistically diverse group of students by recruiting other meaning-making resources besides language, like symbols. From a translanguaging framework, we see Ms. Barlowe's use of translanguaging to aid students working on the story problem by projecting the linguistic information through the written story problem on the board and non-linguistic semiotic information through the image of the puddle and spatial placement of numbers on the number line to complement the story problem about a news forecaster measuring the amount of rain. Although Ms. Choi did not include linguistic features in Carlos' repertoire on the poster, tapping into nonlinguistic semiotic features allowed Carlos to access the content and engage with his peers' math thinking. After Ms. Choi added the symbols in a different color, Carlos managed to identify which classmate followed the order of operations, as these symbols are not specific to one named language (i.e., English) but have meanings embedded in them that are understood across various geographic and cultural educational contexts. By recruiting Carlos' non-linguistic semiotic repertoire, Ms. Choi allowed Carlos to focus on the focal construct (i.e., mathematical reasoning) by removing construct-irrelevant features (i.e., English vocabulary), thereby allowing him to express what he knows (Abedi, 2011). This also reduces the cognitive load on the student who would otherwise have his attention divided between applying math problem-solving strategies and figuring out unfamiliar vocabulary (Gathercole & Baddeley, 1993). I, as a participant observer, also served as a multilingual audience, which is one of the translanguaging pedagogical tenets outlined by Rowe (2018) to support emerging multilingual learners. Ms. Choi referenced this vignette during the participant review (fieldnotes 5/30/24), sharing that she appreciated the suggestion of adding the symbols to the poster as it helped Carlos participate in the mathematics discussion.

Although only one named language was used in these vignettes, various nonlinguistic semiotic resources were paired with spoken language, such as numbers, their spatial placement on a number line, and math symbols. Translanguaging practices can be observed even when only one named language is used, as socially constructed linguistic borders are de-centered and multimodal sensemaking is centered (Jaspers, 2018; Otheguy et al., 2015; Tai, 2022). The translanguaging landscape allowed students with limited experience in English to engage their expansive nonlinguistic semiotic repertoire, like Orlando, to participate in the activity and demonstrate his knowledge of numbers. Examples of this were seen in Ms. Choi's classroom, where an emergent bilingual newcomer was able to engage in a similar number line activity and even revised his thinking in front of the teacher and his peers by moving the sticky note from where he placed initially to the correct spot (fieldnotes, 2/22/24). Additionally, opportunities to engage in mathematics through multiple modes, such as spoken language, symbols, space, and embodied movement, allows for more sophisticated math discourse (Erath et al., 2021; Hunter et al., 2022).

Discussion

This study highlights how incorporating translanguaging into the landscape by recruiting linguistic and nonlinguistic semiotic multimodal repertoires support opportunities for engagement in the math classroom across linguistic backgrounds. Linguistic, semiotic, and multimodal features were all found to some degree in the landscapes of the classrooms. The affordances of embedding translanguaging into the landscape, as well as some considerations for how to effectively leverage students' multimodal symbolic repertoires follow.

Translanguaging in the linguistic landscape

Inclusion of linguistic codes across named languages had several functions in the classroom landscape. For one, it allowed teachers, students, and caregivers to affirm diverse language practices in the classroom by displaying them in the landscape. This affirmation is important, as it is one component that signals to people in the classroom that they are free to use their entire linguistic repertoire to engage in mathematics-related discourse (Morales Jr et al., 2024; Moschkovich, 2002; Wilks-Smith, 2021). The construction of the translanguaging landscapes typically involved multiple actors, such as teachers, students, and caregivers who all bring their collection of linguistic experiences, creating a translanguaging space by following their translanguaging *corriente* (García et al., 2017; Li, 2018). This co-construction across age groups, linguistic backgrounds, and identities is different from what was described by Toropainen and Inga in Swedish schoolscapes (2024), as they found that the schoolscape was created by teachers and school management.

Utilizing multiple named languages in the landscape also served as a springboard to engage in trans-cultural and trans-linguistic math discourse with multilingual audiences (Rowe, 2018), which is consistent with other studies that connect translanguaging landscapes with translingual and transcultural discourse (Seals, 2020; Szabó et al., 2023). Although there was an overarching valuing of the diverse language practices in the classroom shared by teachers, there were instances that indicated that practice did not always line up with this underlying value. Explicitly valuing students' languages and cultures is one design principle of translanguaging pedagogy (Rowe, 2018), and sometimes this value was not made explicit through the landscape. I found that the translanguaging landscape was most effectively leveraged when it was explicitly "activated" and made highly visible in the classroom culture (Alvarez & Alvarez, 2016;

Dasgupta, 2002). In other words, it is not enough to passively include linguistic codes across named languages in the landscape. Activating the translanguaging landscape by drawing attention to it and making it a part of the classroom culture allowed opportunities for students of diverse linguistic backgrounds to participate in math activities and discourses and for teachers to leverage in their teaching.

Translanguaging Landscapes across semiotic systems

In this study, I take translanguaging in the linguistic landscape beyond focusing solely on linguistic codes associated with bound languages, which centers named language labels like "English" and "Spanish" in the math context. Math discourse is linguistic, semiotic, and multimodal to reflect the multiple semiotic representations (Erath et al., 2021) and therefore non-linguistic semiotic resources are necessary to understand meaning-making in the math classroom (Li, 2018). Additionally, translanguaging can occur even when one named language is used because there is a plethora of nonlinguistic semiotic and multimodal repertoires one can engage in (Jaspers, 2018; Tai, 2022; Tai & Wei, 2021). In this study, recruiting nonlinguistic and multimodal repertoires allowed for children of diverse language backgrounds to participate in math discourse with their peers, which aligns with suggestions that math instruction for emergent bilinguals include linguistic and non-linguistic multimodal resources (Moschkovich, 2013). Mathematical reasoning can happen regardless of what named language an individual speaks at any given point in time. This is important to highlight because translanguaging practices allow educators to reject deficit-based perspectives that emergent bilingual children have language "barriers" (Castro & Meek, 2022), as they hold an expansive repertoire of semiotic knowledge to leverage in the classroom.

Conclusion

The findings from this study can guide educators in being more intentional about how they design their classroom spaces to leverage their and their students' linguistic, semiotic, and multimodal repertoires to engage in mathematics Discourse. The vignettes presented above could have all been improved in one way or another to allow more expansive translanguaging practices to occur. Posters with rich visuals could have had multiple linguistic codes embedded in them to increase access to more children's linguistic backgrounds. Story problems projected in multiple named languages could have benefitted from more symbolic and multimodal ways to engage with them, tapping into shared symbolic knowledge. Fortunately, the translanguaging landscape has the potential for high malleability to create a translanguaging space. Teachers, students, caregivers, and I all had an impact on the classroom landscape in the vignettes shared.

Although it is an important component of equitable education practice, it is not enough to only think about how we are recruiting an individual's entire *linguistic* repertoire. Educators must also raise nonlinguistic symbols and multimodalities to parity with linguistic symbols as meaning making and learning tools in the classroom. By doing so, we have the potential to tap into the vast network of culturally and linguistically informed semiotic systems of emergent bilingual children *and* so-called "monolinguals", as they all benefit from this access. De-centering rigid boundaries around named languages and linguistic/nonlinguistic semiotic systems allows us to see how all these factors interact in tandem in the landscape in response to the communicative needs of the classroom during academic subjects such as mathematics. We must follow the current of our vast multimodal semiotic knowledge in engaging with our educational landscapes without impeding its natural flow.

STUDY 2: Graphocentric and Deficit Perspectives in Defining the Home Literacy Environment in ASHA Journals

Researchers and speech-language pathologists in Speech-Language Hearing Sciences (SLHS) use a child's home literacy environment (HLE) to describe a child's language background and suggest ways families can support their child's language and literacy development. However, definitions of the HLE vary considerably and are often narrowly operationalized in research, even though homes are as diverse as the people who inhabit them. These differences are important to consider given the rapidly diversifying demographic composition of the United States. Yet, studies of language and literacy commonly erase or overlook the perspectives and practices of communities of color, reproducing White middle-class norms as the dominant framework (Compton-Lilly, 2021; Ellison et al., 2024). Given the racial composition of the American Speech-Language Hearing Association (ASHA) members being disproportionally White compared to the United States population (American Speech-Language-Hearing Association, 2025), it is necessary to examine how the HLE has been conceptualized in ASHA-published research and whose homes have been represented or omitted in these definitions. In this paper, I will present an analysis of how the HLE has been defined in SLHS research published in ASHA journals and speculate potential futures for describing the HLE that encompasses the rich variety of homes and literacies inhabited by future readers.

The Home Literacy Environment

The HLE has been described as a construct with multiple facets, such as a description of literacy-related resources and activities that occur in the child's home and community in addition to mention of the presence of what are called "literacy materials" in the home (Biggs et al.,

2023). Hart et al. define the home literacy environment as participation in literacy activities at home, shaped by parental practices such as book reading, modeling, providing materials, and library visits (2009). Griffin and colleagues (1998, p. 121) identify four components of the home literacy environment: (1) parents' valuing of literacy through encouragement and modeling, (2) press for achievement via expectations, instruction, and responsiveness to children's reading, (3) availability and use of reading materials, and (4) shared reading with children. Sénéchal and colleagues' (2017) "home literacy model" distinguishes between "code-related activities" (i.e., activities focusing on features of print) and "meaning-related activities" (i.e., activities focused on print). They define the "home literacy environment" as aspects of the home that exposure children to print, encompassing three types of experiences: 1) interacting with parents in reading and writing tasks, 2) independent print exploration, and 3) observing parents modeling their own reading and writing practices.

Scholars have explored various components of the HLE and their impacts on reading. Aleksić & Duruş (2025) found that number of books in the home and parent interest in reading predicted early reading skills in multilingual preschool children. Other scholars have found that the HLE as measured by reading habits of people in the home, joint language activities, and presence of print materials in the home predict higher performance on variety child language development measures, such as oral language, early literacy skills, phonological awareness, and reading skills (E. A. Griffin & Morrison, 1997; Marjanovič Umek et al., 2005; Sénéchal et al., 2017). Therefore, the HLE has been identified in the literature as an important object of study given its role in developing the print literacy skills expected in schools, workplaces, and activities of daily life in a print-centric society.

In contrast, other scholars have taken a more expansive view of literacies that occur in the home. Ellison et al. (2024) take a descriptive approach to define family literacy practices "as *naturally occurring* literacy events that organically exist in households" (p. 2). This is important to consider, as a culturally and linguistically diverse society like the United States will have equally diverse literacy events due to learning differences across cultures (Rogoff, 2003). Scholars have identified culturally-relevant practices in Latinx communities that center, for example, intergenerational poetry readings, family anecdotes, religious stories, and the transmission of systemic inequities they have experienced (Bernal, 2001; López, 2023; Reese, 2012; Reese & Gallimore, 2000; Silva & McCabe, 1996). In Black communities, literacy practices around joint storytelling, distributed literacy tasks among all members of the household, one-on-one conversations regarding challenges children may come up against, and discourse around race (Heath, 1982; Jarrett & Coba-Rodriguez, 2017, 2018; Nash et al., 2018) communities in the United States. These studies highlight the cultural nature of how literacy occurs in home and community spaces, often informed not only by reading the word, but also by reading the world (Freire & Slover, 1983) and the systemic injustices experienced by these communities. Therefore, literacy goes beyond print reading to include other modalities of expressing and interpreting the world, and these modalities are influenced by cultural differences in the reader.

Many of practices referenced to in the literature, such as storybook reading and name writing, are literacy practices associated with normative Whiteness and, subsequently, are positioned as idealized goals for children of color (Compton-Lilly, 2021). Family literacy programs that center White literacy practices has been demonstrated to be ineffective in the long-term if cultural context is not accounted for (Gadsden, 1994; Janes & Kermani, 2001). Therefore,

researchers and practitioners in the field of SLHS must pay attention to how they are defining and operationalizing the HLE, as it will determine the type of research, assessments, interventions, and accommodations/modifications generated for culturally and linguistically minoritized populations.

Conceptual Framework

Defining Literacy, Colonialism, and Deficit Discourses

It is important to recognize the many ways literacy has been framed in research, as literacy lacks a single, universally accepted definition (Durán et al., 2023; Guerra, 1992; Keefe & Copeland, 2011). How literacy is defined in research determines how individuals are perceived (i.e., "literate" or "illiterate") that then affect educational practices, policies, and future research (De Souza, 2016; Keefe & Copeland, 2011; Scribner, 1984). Common conceptualizations of literacy, what Cazden et al. call "mere literacy", focus on the cognitive skills related to print reading that are "restricted to formalized, monolingual, monocultural, and rule-governed forms of language" (1996, p. 61). Relatedly, Street (1984) calls this "autonomous" literacy, which focuses on the ability to read and write using an alphabetic code.

However, scholars have argued that defining literacy solely through print-based cognitive skills reflects graphocentric Western colonial assumptions. This framing marginalizes the multiple literacy practices of non-dominant communities and contributes to the "whitewashing" of literacy research. (Compton-Lilly, 2021; De Souza, 2016). This contributes to deficit-based thinking of the literacies of marginalized communities (Avineri et al., 2015; Blum, 2017, p. 20; García & Otheguy, 2017; Ladson-Billings, 2007). Recognizing the colonial legacies underpinning deficit perspectives in research is essential for advancing more equitable scholarship (de los Ríos et al., 2019; Williams & Martinez, 2023). Therefore, it is important to

take more expansive views of literacy to the practices of marginalized communities, such as translanguaging and multiliteracies (Cazden et al., 1996; Cope & Kalantzis, 2000; García & Kleifgen, 2020).

Translanguaging and Multiliteracies

Alternative models of language and literacy move beyond framing literacy as a neutral cognitive skill to more sociocultural approaches to literacy link that link multiple literacies, such as writing, reading, and language, to culturally defined social practices and relations of power (J. Gee, 1991; Gutierrez et al., 1997; Street, 1984). One of those models is translanguaging, which describes the ways people draw on their entire linguistic and non-linguistic semiotic repertoires to express and makes sense of their worlds (García, 2009; Li, 2018). Furthermore, translanguaging describes the language and literacy practices that individuals engage in that do not always adhere to socially constructed language labels but fluidly engage in all of their symbolic-meaning making resources (Li, 2018; Otheguy et al., 2015). Applied to literacy, translanguaging literacies privilege the language and literacy practices of multilingual individuals within a social space and engage a myriad of semiotic resources, both linguistic and non-linguistic, within relations of power to interpret and produce texts (García & Kleifgen, 2020). Relatedly, a pedagogy of multiliteracies are the literacies necessary to navigate the multiple communication channels and media such as visual, audio, and spatial forms of meaning-making (Cazden et al., 1996; De Souza, 2016). Literacies that embrace cultural and linguistic diversity are essential in a world where citizenship demands effective interaction across languages, dialects, cultures, and modes of communication. (Cazden et al., 1996; De Souza, 2016). Moreover, a multiliteracies approach expands what would qualify one as “literate’, as there are multiple forms of meaning making people engage in beyond the written word (Cervetti

et al., 2006). Eurocentric colonial epistemologies risk collapsing diverse ways of knowing into homogenous graphocentric notions of literacy (De Souza, 2016). A translanguaging stance situates literacy within social justice frameworks by acknowledging the multilingual and multimodal repertoires of minoritized communities (García, 2009; Henner & Robinson, 2023). Viewed through the lens of translanguaging and multiliteracies, there would be an expansive array of literacies practiced in the home environment, which would need to be accounted for in any research focused on the Home Literacy Environment.

A Bioecological Model to Literacy

Jaeger (2017) proposes Bronfenbrenner's bioecological model (Bronfenbrenner & Morris, 2007) as a framework in describing an individual's literacy ecology. The four defining properties of the bioecological model are: 1) proximal process, 2) person, 3) context, and 4) time. A "proximal process" describes the interactions between a person and the environment. In the context of literacy, proximal processes can be interactions between children and adults and/or non-human literacy artifacts such as books and digital technology (Jaeger, 2017). "Contexts" describes the contextual systems that impact the child such as the microsystem, mesosystem, exosystem, and macrosystem. Microsystems are contexts in which the child is an active member of, such as the home, school, and community spaces. Mesosystems are the interactions between two or more microsystems, such activities in the home influencing activities in the school and vice-versa. Exosystems are systems in which the child is not directly involved in but still impact their development, such as caregiver workplace. The macrosystem are the systemic factors surrounds all the other systems, such as harmful practices motivated by "discrimination based on class, race, gender, age, sexual orientation, and (dis)ability" (Jaeger, 2017, p. 166). Within the macrosystem operate deficit-oriented ideologies that devalue the language and literacy practices

of marginalized groups, construing them as inferior on the basis of their association with marginalized communities (Avineri et al., 2015; Flores & Rosa, 2015; Paugh & Riley, 2019).

Ideological Foundations of ASHA

ASHA is the national professional, scientific, and credentialing body in the United States that serves its 241,000 members that include speech-language pathologists, audiologists, and students. The field of speech-language pathology is disproportionally White, with 90% of ASHA membership (American Speech-Language-Hearing Association, 2025). Critical scholars have investigated the current state of the field through critical analyses of ASHA and ASHA-related documents. The association's founding was mired with harmful ideologies as demonstrated by an analysis of the writings of the founding members of ASHA, such as elitism, ethnocentrism, racism, and ableism that can be traced to current practices today (Duchan & Hewitt, 2023). Yu et al. (2022) conducted a critical discourse study of two professional standards documents in the SLHS field to examine how they addressed the experiences and needs of marginalized populations. They found evidence of color-evasive racist discourse reflected in these documents that only serve to maintain racial inequities in SLHS. Similarly, Hyter (2021) conducted a critical analysis of equity-related concepts used in ASHA journals and found that the concepts were uncritically used, often using vague definitions that could lead to further inequities. Yu et al.'s critical discourse study and Hyter's concept analysis highlights the need of a predominantly White field to critically examine terminology used by its members (e.g., researchers, speech-language pathologists, audiologists). Uncritically using terminology to describe and serve linguistically marginalized communities would only serve to undermine the systemic-level change (Brea-Spahn & Fabiano-Smith, 2023; B. Yu, Nair, et al., 2022). Therefore, given the

history of problematic use of terminology in the organization, it is imperative to investigate how research published in ASHA journals has defined the Home Literacy Environment.

Concurrently, there have been calls from within the field to reflect, reframe, and re-imagine the ways in which theory and critical praxis are done in the field, with a focus on minoritized communities and the ideologies that motivate their/our research (Brea-Spahn & Bauler, 2023; Brea-Spahn & Fabiano-Smith, 2023; Privette, 2023). Minoritized communities are affected by the effects of the logic of coloniality, which is the process by which knowledges of dominant groups are given normative status while knowledges of minoritized groups are framed as deficient or nonexistent (Mignolo, 2007). This critical interruption of Eurocentric colonial values in the way we apply concepts in the field are integral in also interrupting the field's zero-point hubris (Castro-Gómez, 2007), which is the a process through which dominant groups, in unequal power relations, elevate their knowledges, languages, and values to a 'zero point,' establishing them as the only legitimate forms (De Souza, 2016, p. 275). Given the lack of a universally agreed upon definition of the HLE and the problematic ideological foundations of ASHA, it is imperative to investigate how the HLE has been defined from a more expansive view of literacy that accounts for the diversity of people served.

Current Study

The purpose of this study is to identify, classify, and compare the existing definitions of "home literacy environment" and related terms in ASHA journals. Using the bioecological model of human development (Bronfenbrenner & Morris, 2007; Jaeger, 2017) as an analytical frame, I will 1) identify how "home literacy environment" has been defined when describing the extant home language and literacy practices in research published in ASHA journals and 2) interrogate what ideologies underpin these definitions in relation to marginalized communities.

Drawing from 30 years of research published in ASHA journals, I use translanguaging literacy (García & Kleifgen, 2020) and multiple literacies (Street, 1984) framework to systematically analyze how the home literacy has been defined and what ideologies undergird those definitions.

Methodology

Positionality Statement

I am a bilingual researcher and speech-language practitioner (SLP). In my capacity as a bilingual SLP, I have worked with many bilingual children across several Spanish-English dual immersion programs. My interest in HLEs stems from my own lived experience as an avid reader who grew up with an immigrant father who was never formally educated and, therefore, did not learn to read. Although my immigrant mother went on to achieve her General Education Diploma in the United States, she was pulled out of school in the fifth grade in Mexico. I grew tired of reading home environments like mine described as having "less supportive language experiences" (Hoff & Tian, 2005). On the contrary, I grew up surrounded by expert storytellers with storytelling styles that I now look for in stories through various formats such as books, film, and oral storytelling. It is this cultural perspective and lens that I bring to this study that I aim to use to seek expansion of how we can view HLEs in research. Given that most scholarship on home literacies have been conducted by middle class White researchers, my perspective as a scholar of color will bring a new insight into the topic (Ellison et al., 2024). I use my positionality to produce research through my own experiences that allow me to engage in emotional ties with my work (Abrego, 2020).

Systematic Concept Analysis

I applied a review of studies from 1997 to 2025 for literature in ASHA Journals using Systematic Concept Analysis using the following five steps (Nuopponen, 2010): 1) Purpose and

delimitation of concept analysis, 2) Acquisition of domain knowledge and creating a general idea of the field, 3) Compiling the material, 4) Elaborating a preliminary concept system and/or framework for analysis, 5) Systematic analysis of the material.

Step 1: Determine the Purpose and Delimitation

The first step was to determine the purpose and delimitation of the analysis, which is to identify, classify, and compare the existing definitions of "home literacy environment" in ASHA journals. Given that the concept under investigation is "home literacy environment", I also looked at related concepts such as "home literacy practices" when used in a home environment. A full list of related concepts is detailed in step 2.

Step 2: Acquire domain knowledge and create general idea of the field

The second step is the acquisition of domain knowledge and creating a general idea of the field. I completed a search using ASHAWire, an online repository for the following ASHA journals: *American Journal of Audiology*; *American Journal of Speech-Language Pathology*; *Journal of Speech, Language, and Hearing Research*; *Language, Speech, and Hearing Services in Schools*, *The ASHA Leader*, *Contemporary Issues in Communication Science and Disorders,* and *Perspectives of the ASHA Special Interest Groups.* The search script used was: "literacy practice" OR "home literacy environment" OR "parent/child book reading" OR "family literacy practice" OR "dialogic reading" OR "storytelling practice" OR "home reading environment" OR "home literacy routine" OR "home reading practice".

The inclusion criteria for the studies were the following: a specific use of the word "home" or related terms, a focus on describing existing language/literacy practices children engage in, youth ages 0-21, published in the past 27 years (i.e., 1997-2024). Articles were excluded if 1) the focus was on home language/literacy interventions and did not describe extant

home language/literacy practices and 2) if language practices at home described were merely categorical language use (e.g., “the home language is Spanish”).

Step 3: Compiling the material

For step 3, I compiled the material based on the inclusion/exclusion criteria. My search of studies resulted in 160 articles. I independently screened each manuscript by title and abstract, followed by a full-text screening of manuscripts meeting inclusion criteria. One article was excluded, as it was a duplicate. After title and abstract screening, 37 articles met inclusion criteria. During the full article screening of the 37 articles, seven articles were excluded due to providing no definition, operationalization, or citation of the HLE, one was excluded because it was a home interventions study, and one was excluded because its home language description was limited to categorical descriptions of language used. In total, 9 articles were excluded from the analysis during the full text screening, resulting in 28 studies.

I searched for other related terms I found in the articles during full text screening: “literacy socialization” and “home literacy experiences”. “Literacy socialization” resulted in 8 articles. Two articles were already included from the original search, and six did not pass the title and abstract screening. “Home literacy experiences” resulted in five articles. One article passed the title and abstract screening and was included in the analysis. Four articles did not pass the title and abstract screening. In total, 29 papers were included in the analysis for this study (see Figure 1).

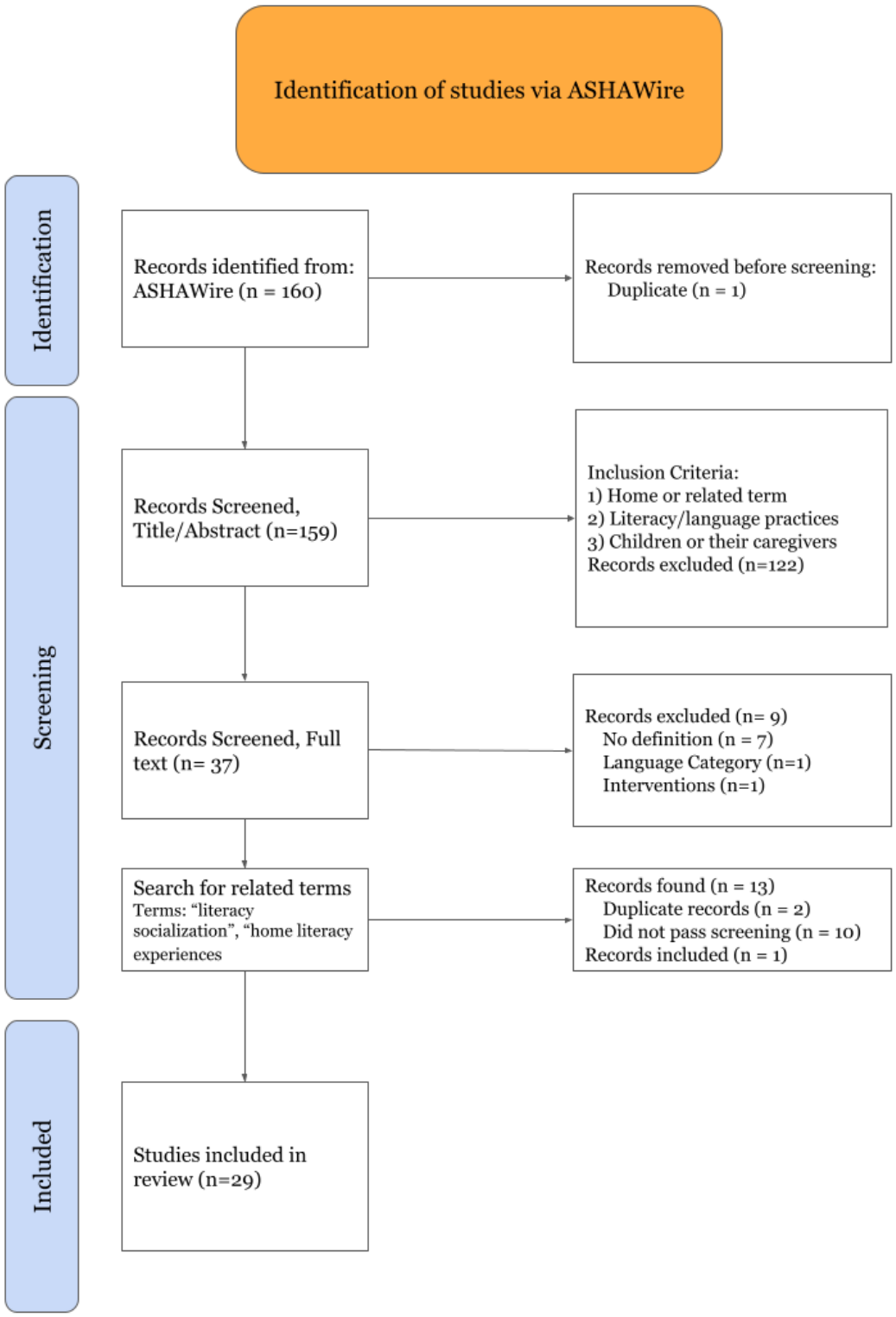


Figure 5: PRISMA Flow Diagram of ASHA Journal Articles Identified, Screened, and Included in Analysis

I gathered in-text references to “home language environment” or related terms (e.g. home reading environment, home literacy routines, home reading practices) from the main text of the articles such as the conceptual framework and description of surveys and measures. Where little or no definition/operationalization of the HLE was provided, but a citation was provided, I extracted how the referenced article(s) defined/operationalized the HLE. The included studies were organized on an online spreadsheet with the following columns: Citation, Definition, How it operationalized, Population Focused, Study Type.

Step 4: Elaborate a preliminary concept and/or framework for the analysis

For step four, I followed Braun and Clarke’s (2006) process of thematic analysis to code and analyze the data: 1) I familiarized myself with my data by reading, re-reading the data and noting initial ideas using analytical memos, 2) I did a first round of inductive coding to generate initial codes. I coded the excerpts using Dedoose (SocioCultural Research Consultants, LLC, 2025) during a first round of coding using an inductive approach, 3) I grouped codes from the first round of coding to form overarching themes using a thematic map, 4) I reviewed themes to ensure that data within themes were coherent and that there were clear, identifiable differences between the themes. This process involved presenting preliminary themes to a group of peer language researchers for feedback, as well as engaging with existing scholarship. Codes within themes that overlapped with each other were merged and codes that were not recurring were eliminated. After receiving peer input and consulting the literature, I found that codes were fitting the bioecological model of human development (Bronfenbrenner & Morris, 2007). At this stage, I adopted this as my theoretical framework for this analysis. 5) Finally, I defined and named the themes within the bioecological model by iteratively engaging with prior research.

Step 5: Systematic analysis of material

Step 5 is the systematic analysis of the material, which I will detail in the results section.

Results

Four major themes emerged that aligned with Bronfenbrenner's bioecological model (Bronfenbrenner & Morris, 2007; Jaeger, 2017). Definitions of the HLE fell into the following main categories: 1) personal characteristics of people in the home (i.e., demand, resource, and force characteristics), 2) microsystems (i.e., home, community), and 3) mesosystems (i.e., blending of home and school microsystems). Ideologies at the 4) macrosystemic level included centering Whiteness and adopting Culture of Poverty ideology.

Demographics - Racial/Ethnic Background

Of the 29 studies identified from the search, 12 included Latino/a/x participants, nine included Black/African American participants, six White, one Asian, and one Native American/Indigenous. Eleven did not report racial/ethnic demographic information. This is consistent with Annamma et al.'s (2013a) description of representation patterns in special education research, with (1) under representation of Asian Americans due to their status as "model" minorities, (2) the invisibilization of Native Americans through exclusion in research despite overrepresentation in many special education categories, and (3) the over-representation of Latinx communities due to their racialized and, therefore, pathologized, language and literacy practices that are perceived to require remediation (Flores & Rosa, 2015).

Personal Characteristics

Articles often described the HLE through the characteristics of people in the home (see Table 1 for definitions, examples and frequencies). Three major characteristics found in this

analysis that fell into demand characteristics, resource characteristics, and force characteristics (Bronfenbrenner & Morris, 2007).

Table 1. Personal Characteristics - Demand, Resource and Force Characteristics

Category	Definition	Example	# of articles out of 29
Demand: Cultural Background	Accounting for racial/cultural differences and culturally-specific properties of the home literacy practices.	"[...] from a sociocultural view, home literacy practices are defined by culture. (Chennupati et al., 2024)	5
Resource: Embodied Capital	The embodied capital of people in the home, specifically the child literacy skills, caregiver literacy skills, and caregiver knowledge about child development	"Parents who structure the home environment so it is conducive to their children's literacy learning [...] tend to have [...] strong personal literacy abilities […]" (Lanter et al., 2012)	8
Resource: Institutional Capital	Institutional capital accumulated by adults in defining the HLE, namely caregivers' socioeconomic status (SES) and educational attainment.	"[...] a limited home literacy environment unfavorably impacts children's level of language and literacy attainment and is associated with families' socioeconomic status and level of education." (Mesa and Restrepo, 2019)	6
Force: Beliefs, Values, Aspirations	The perception of how important literacy is at home, and the literacy-related aspirations caregivers have for their children, such as caregivers' (e.g., parents) beliefs about future literacy expectations for their children.	"Although definitions of the home literacy environment vary, components typically include [...] parents' or other family members' attitudes/beliefs about literacy [...]" (Biggs et al., 2023)	20
Force: Literacy Affect	Individual's emotional characteristics surrounding literacy activities, including how much a caregiver provides an emotionally safe and supportive learning environment for literacy activities for the child, child and caregiver enjoyment of literacy activities, and child interest in books.	"Qualitative aspects of home literacy experiences of particular salience include instructional focus and socioemotional support…defined largely by the level of adult sensitivity" (McGinty & Justice, 2009)	11

Demand Characteristics

Demand characteristics are observable characteristics that can either invite or discourage actions within the social environment. The demand characteristic recurrent in HLE definitions was cultural background of people in the home. For example, one article defines the HLE by stating "that cultural and economic differences exist in the functions of literacy" (Hammer et al.,

2003, p. 21). This article takes into consideration cultural components of the HLE that may influence the types of practices present in the home. However, as will be discussed in macrostructural components of HLE definitions, cultural variation is frequently framed in relation to a White, middle-class norm, positioning non-dominant practices as deviations rather than equally valid systems of literacy.

Resource Characteristics

Resource characteristics are the knowledge, skills, and experiences of individuals, such as embodied capital and institutional capital (Bourdieu, 2011). Embodied capital describes the skills and knowledge that are assimilated into the mind and body of individuals from participating in their social milieu, such as literacy skills. The embodied capital of people in the home, specifically the child literacy skills, caregiver literacy skills, and caregiver knowledge about child development, was a recurring component of HLE definitions. Child literacy skills referenced include sight reading, oral language, phonological awareness, decoding and symbol recognition, letter/sound knowledge, and recognizing authors and titles. Adult literacy skills referenced were broadly described as "parental literacy" (Michaelides & Luciano, 2023) and having "strong personal literacy abilities" (Lanter et al., 2012). Within definitions of the HLE, adult knowledge of child development also functioned as a form of embodied capital, such as parents' knowledge related to reading. (O'Fallon et al., 2022).

Institutional capital are the qualifications one receives from participating in certain institutions such as school and work that have certain levels of prestige associated with them (e.g., socioeconomic status, educational attainment) (Bourdieu, 2011). Articles in this analysis referred to the institutional capital accumulated by adults in defining the HLE, namely caregivers' socioeconomic status (SES) and educational attainment. For example, Mesa and

Restrepo (2019) characterize the HLE of low-income families with low levels of education as "limited", citing prior research that also takes a deficit approach to the language and literacy practices of low-income families. They also contrast low- and high-income families by suggesting that low-income homes "generate conversations, use diverse vocabulary, and read stories less frequently" (p. 356). These studies position socioeconomic status as a key determinant of language-rich interactions within the home. By linking higher SES to more "effective" literacy practices, these definitions risk reproducing a deficit framing of lower-income households, aligning with Bourdieu's notion that dominant forms of capital are misrecognized as inherently superior. The characterization of low-income HLEs as "limited" reflects a deficit-oriented perspective that privileges frequency-based measures of literacy over culturally situated practices.

Another form of institutional capital included in defining the HLE was educational attainment, such as HLE surveys that asked about "educational achievements" (e.g., Lanter et al., 2012). Because educational attainment is closely linked to SES, its inclusion reflects and reinforces broader social hierarchies, positioning formally educated households as normatively "rich" literacy environments. This framing risks naturalizing dominant forms of institutional capital while obscuring alternative, culturally situated literacy practices.

Force Characteristics

Force characteristics impact motivation, such as individual beliefs, values, aspirations, and socioemotional affect (Bronfenbrenner & Morris, 1998; Jaeger, 2017). Definitions of the HLE related to force characteristics frequently emphasize caregivers' beliefs about literacy and their aspirations for their children's future literacy development. Across studies, parental beliefs and attitudes toward literacy are consistently positioned as central components of the HLE. For

example, Biggs et al. define the home literacy environment "as encompassing…parental attitudes or beliefs about literacy at home (2023, p. 2121). However, privileging beliefs and aspirations may individualize responsibility for literacy outcomes, potentially overlooking structural constraints that shape what families are able to do in practice. This emphasis frames the HLE as not only a set of observable practices but also as an expression of caregivers' internal orientations toward literacy. However, centering beliefs and aspirations may individualize responsibility for literacy outcomes, potentially obscuring the structural conditions that shape families' capacity to enact these beliefs in practice.

Individual's emotional characteristics surrounding literacy activities was another recurring force characteristic. Definitions of the HLE related to emotional characteristics include how much a caregiver provides an emotionally safe and supportive learning environment for literacy activities for the child, child and caregiver enjoyment of literacy activities, and child interest in books. For example, McGinty & Justice include the following in their definition of the HLE: "Qualitative aspects of home literacy experiences of particular salience include instructional focus and socioemotional support" (2009, p. 84). This emphasis on socioemotional dimensions frames the HLE not only as a site of literacy practice but also as an affective space, where caregivers are expected to cultivate enjoyment, engagement, and emotional support. By framing positive emotions as integral to effective literacy environments, these definitions risk moralizing family practices, positioning some households as more caring or invested than others.

Microsystems

The following themes relate to definitions related to two separate microsystems, the home and the community (see Table 2 for definitions, examples, and frequencies).

Table 2. Microsystems - Home, Community

Category	Definition	Example	# of articles out of 29
Home: Reading/Book Activities	The types of reading/book activities engaged in the home such as child adult joint reading, independent reading, and literacy strategies used during book reading.	"This study examined the extent to which specific home literacy practices (frequency of shared book reading [...])" (Roberts et al., 2005)	27
Home: Writing/Art Activities	Writing and/or art activities practiced in the home.	"[...] home literacy practices refer to the print and related experiences [...] such as interaction with print and writing materials [...]" (Boudreau, 2005)	12
Home: Listening To/Telling Stories	Activities involving listening to and telling stories without books.	" [...] researchers have conceptualized the HLE as activities that expose children to stories, including [...] maternal storytelling, children's participation in storytelling with their caregivers [...]" (Bitetti & Hammer, 2015)	9
Home: Rhyme, Prosody, and Rhythm Activities	Activities related to rhyme, prosody, and rhythm, such as singing songs, reciting rhymes, noticing and pointing out rhymes, and reading rhyming books.	"A literate home environment begins with the presence of easily accessible reading and writing materials in the home [...]. Activities that develop an awareness of rhyme, prosody, and rhythm, such as nursery rhymes, songs, and fingerplays [...]" (Terrell & Watson, 2018)	8
Home: Watching Videos	Activities where stories are transmitted through videos, such as television, DVDs, and VCRs.	"HLE (Home Literacy Environment) Items [...] 51. How many times did your child listen to stories on cassettes, CD, DVD, and/or videos last week?" (Newbury et al., 2020)	4
Home: Literacy Capital	References to the presence of and/or ownership of literacy-related artifacts in the home.	"[...] nine home literacy environment variables were studied, including [...] the number of picture books in the home [...]" (Farquharson, 2017)	17
Community: Library	Visiting the library.	" [...] the home literacy environment (HLE), [...] includes both exposure to and frequency of parental activities such as [...] going to the library." (Snow, 2021)	12
Community: Symbols and Print in the Environment	Interacting with symbols and print in the environment, such as signs (i.e., restaurants, stores, street signs), logos, and words.	"Table 2. Home literacy questionnaire [...] 19. Do you point out signs and words such as restaurant names or street signs to your child?" (Bodreau, 2005)	4

Home

These subthemes relate to definitions and operationalizations of the HLE that center the home microsystem, specifically literacy activities and literacy capital.

Literacy Activities. Literacy activities are related to "processes" according to the bioecological model, which are the "particular forms of interaction between organism and environment" (Bronfenbrenner & Morris, 2007, p. 795). Recurring literacy activities that described specific literacy activities in the home include reading/book activities; writing; watching videos; rhyme, prosody, and rhythm activities; playing and listening to/telling stories (without books).

Literacy Capital. Literacy capital are physical objects in the home such as books, dictionaries, and other instruments (Bourdieu, 2011). Applied to this analysis, literacy capital refers to the physical objects that are approximate to literacy activities. Definitions of the HLE that fall under this category typically described the presence, ownership, and access to literacy-related artifacts such as books, magazine subscriptions, reading/writing/art materials, and general "literacy" materials. Books were highly prioritized literacy capital as the most recurring artifact under literacy capital. The remaining articles referred to literacy capital generally, such as literacy "materials" (Mesa & Restrepo, 2019) or "reading and writing materials" (Marvin & Wright, 1997).

Community

Library. This subtheme relates to references to visiting the library as a component of the HLE. Examples of definitions under this subtheme include "check out a book from the library" (Hammer et al., 2003a) and "How often do you or another family member go to the library with

your child?" (McGinty & Justice, 2009). Included in this subtheme are experiences going to a book store (Newbury et al., 2020) and attending story time (Terrell & Watson, 2018).

Symbols and Print in the Environment. This subtheme relates to engaging with symbols and print in the environment. Definitions under this category included signs (i.e., restaurants, stores, street signs), logos, and words. Examples of definitions/operationalizations under this subtheme include "Do you point out signs or words such as restaurant names or street signs to your child (i.e., McDonald's arches, Pepsi logo, etc.?)" (Boudreau, 2005) and "response to print in the environment" (Breit-Smith et al., 2010).

Table 3. Mesosystem - Home and School

Category	Definition	Example	# of articles out of 29
Home and School	The home mirroring activities of the school, including caregivers taking on the role of teacher/educator, the similarity of activities at home and school, and caregiver involvement in school activities.	" [...] Snow et al. (1998) model of the home literacy environment [...] acknowledges the relationship between language status and literacy outcomes [...] the degree of similarity between home and school literacy events predicts success in school-based literacy." (Hammer et al., 2003, p. 22)	5

Mesosystem

Mesosystems are the intersections among major settings (i.e., microsystems) (Bronfenbrenner, 1977). The two microsystems overlapping in defining the HLE are home and school (see Table 3 for definition, example, and frequency).

Home and School

This theme relates to the notion that the home microsystem should mirror activities and the environment of the school microsystem in defining the HLE. Specifically, definitions focused on parents/caregivers, usually mothers, explicitly taking the role of a teacher/educator, the similarity of activities at home with activities at school, and caregiver involvement in school

activities. For example, Leroux et al. (2024) include "parent teaching strategies, both for language development and related to helping children understand the 'code' of reading" (p. 71) in their definition of the HLE. In describing their use of Snow et al.'s (1998) model of HLE, Hammer et al. (2003) state that "the degree of similarity between home and school literacy events predicts success in schoolbased literacy" (p. 22), highlighting that the merging of home and school microsystems is a component of HLE definitions in the articles in this analysis.

Macrosystem

Macrosystemic contextual factors are those that envelop all others (i.e., personal characteristics, microsystems, mesosystems). These macrosystemic factors contain the ideologies that motivate definitions of the HLE, specifically ideologies that center whiteness and ideologies around a culture of poverty.

Centering Whiteness

Although cultural variation in the HLE is acknowledged in these articles, it is acknowledged uncritically and situated within White norms that frame the literacy practices of racialized communities as inferior (Flores, 2020; Flores & Rosa, 2015). Defining the HLE through the blending of home and school microsystems often involved using deficit-based discourse around marginalized communities that prioritizes idealized school-based norms over culturally specific norms of the home. Notably, the home/school blending is unidirectional, with individuals in the home expected to approximate school norms (i.e., parents taking a teacher role at home) but not the other way around (i.e., educator involvement with child's family). For example, Hammer et al. (2007) describe the HLE of Latinx/Puerto Rican families, stating that "literacy served a range of functions in the home of Latino families" (p. 217), yet continue to emphasize what these families did less often than White families (e.g., daily book reading,

participation in school activities, literacy-related teaching). Moreover, centering Western literacy practices is masked through a definition of the HLE that purports to affirm cultural variability in how literacy is practiced in the home.

Definitions in this analysis were often restricted to graphocentric view of literacy that prioritizes print reading, book familiarity, and writing for children (De Souza, 2016). For example, literacy beliefs, values, and affect were typically linked to book reading. McGinty and Justice (2009) measure the "quality of home literacy experiences" through an observational scale that examines "maternal sensitivity…during dyadic interactions" during storybook reading (p. 86). Michaelides and Luciano (2023) make value laden-claims that suggest that a home literacy environment where the parent are not print literate are "poorer" (p. 1741). Other forms of storytelling, such as oral storytelling and audiobooks, were present in the articles identified in the search for this study, but to a lesser extent. The literacy skills highlighted in these articles privilege White, English-speaking, middle-class forms of educational literacy (Ellison et al., 2024). More expansive definitions of literacy practices in the home that exist outside of print-based literacy are also important in the development of literacy but are either underrepresented or not present at all in the articles analyzed.

Culture of Poverty

A "Culture of Poverty" ideology is one that blames individuals for their material shortcomings, such as parents not providing "high quality" linguistic and literate interactions, rather than social and economic policy, thereby pathologizing marginalized communities (Blum, 2017; Ladson-Billings, 2007). Several articles in this analysis made value-laden claims about the quality of the HLE in relation to the SES and educational attainment of caregivers. While this may not be the explicit intention of the authors, making individualized claims about the literacy

practices without accounting for systemic, structural level factors has the consequence of blaming individuals for systemic inequities. Specifically, high attainment of formalized education is used to describe favorable components of the HLE, while low or no attainment of formalized education is used to describe unfavorable HLE. For example, Mesa and Restrepo (2019) characterize the HLE of low-income families with low levels of education as "limited", while Terrell and Watson (2018) state that children living in poverty are often "not receiving early literacy experiences" given that they "had less exposure to books in their homes and were often not exposed to public libraries as compared with children from higher socioeconomic groups" (p. 150). The assumption that low-income families have no early literacy experiences and live in a vacuum is deeply problematic and rooted in deficit ideologies (Reyes & Torres, 2007). There is no acknowledgment of the macrosystemic contextual factors of poverty that creates the conditions described here as what constitutes an HLE (Dudley-Marling & Lucas, 2009). This results in value-laden definitions demonstrated in this analysis that place the blame on individual caregivers for systemic-level inequalities.

To move beyond deficit-oriented frameworks, future research can adopt asset-based and culturally sustaining approaches to defining the HLE, recognizing the legitimacy of diverse literacy practices rather than evaluating them against dominant, middle-class norms. This includes expanding measures of the HLE to account for oral storytelling, multilingual practices, and community-based literacies. Additionally, family literacy practices need to be situated within broader structural contexts. Researchers can explicitly account for systemic inequities by incorporating measures of access, opportunity, and institutional support, rather than relying solely on individual-level indicators such as caregiver education or income. By reframing the

HLE in this way, research can shift from pathologizing families to more accurately capturing the complex, contextually embedded nature of literacies.

Discussion

The purpose of this study was to 1) identify, classify, and compare existing definitions of the HLE in ASHA journals and 2) to interrogate what ideologies underpin them. Results from this study demonstrate that definitions of the HLE fit into the bioecological model, covering personal and contextual factors such as personal characteristics of people in the home, home and community microsystems, and the blending of home and school microsystems (i.e., mesosystem). Drawing from 30 years of research published in ASHA journals, I use a translanguaging literacy (García & Kleifgen, 2020) and multiple literacies (Street, 1984) framework to argue that definitions of the HLE serve to funnel expansive, multiplicitous literacies to a limited definition based in deficit colonial ideologies that also limits what counts as a "literate" and an "illiterate" home. The macrosystemic ideologies that undergird the definitions of the HLE were steeped in deficit-based Eurocentric and graphocentric idealized notions of what counts as literacy at the personal, microsystemic, and mesosystemic level (Bronfenbrenner & Morris, 2007; De Souza, 2016; Jaeger, 2017).

A Funneling of Multiliteracies into Graphocentric Literacy

From a translanguaging literacies and multiliteracies perspective, current definition of the HLE appear to prioritize activities that involve books. It is important to highlight the ideological underpinnings this has for research published in ASHA journals, as artifacts contain political properties that index "arrangements of power and authority in human associations" (Winner, 2017, p. 123). Books are often seen as the "magic bullet" to guarantee academic development (Zentella, 2015). However, uncritically determining the "value" of a child's HLE through the

presence of and amount of books obscures impacts by institutional inequalities experienced by marginalized communities, as well as erasing non-print forms of literacy practiced by a diversity of cultures that exist in the United States (Cazden et al., 1996; De Souza, 2016; García & Kleifgen, 2020). The literacy activities highlighted tended to be primarily graphocentric activities that reflect Western-centric ways of practicing literacy, such as adult-child shared book reading (Anderson et al., 2010). Although other forms of literacy were represented (e.g., telling/listening to stories, multimedia) they were in the minority. Such definitions are based on the "Euro-American middle-class model" in which parents serve as instructors, asking questions with predetermined answers, whereas in other cultural contexts, questions are posed to seek unknown answers (Blum, 2017). Therefore, current definitions of the HLE through the fall short of acknowledging culturally diverse ways of practicing literacy and acknowledging macro-level systemic obstacles that influence the accumulation of capital and literacy resources. As I have demonstrated in this analysis, centering Whiteness serves to pathologize marginalized communities through perceived individual deficits (Dudley-Marling & Lucas, 2009; Ellison et al., 2024). This analysis reveals the field's zero-point hubris whereby the home literacy environments of those in marginalized positions are delegitimized and Western-centric literacy practices are established as the only legitimate forms (Castro-Gómez, 2007; De Souza, 2016).

Macrosystemic Factors in the HLE and Deficit-Based Discourses

From a bioecological perspective, macrosystemic contextual factors are largely absent from descriptions of the HLE. This omission is significant, as it risks reinforcing deficit-oriented discourses that position the language and literacy practices of marginalized groups (e.g., low-SES and racialized communities) as deficient due to individual shortcomings, rather than recognizing the influence of macro-systemic-level inequities. The articles frame SES and

educational attainment only as individual-level barriers for caregivers, without probing broader structural dimensions. These barriers, presented without macro-level contexts of inequities for low-SES and low formal educational achievement, blame individuals for their marginalized positions in society and their "poor", "limited" home literacy environments. These feed into deficit-based discourses around communities living in poverty, who are often described as experiencing "verbal deprivation" and having "restricted codes" (Paugh & Riley, 2019).

Moving Forward in Defining HLE

This study adds to the growing body of literature that critically examines terminology use in language and literacy research, revealing harmful ideologies underlying them (Hyter, 2021; MacLeod & Demers, 2023; B. Yu, Horton, et al., 2022; B. Yu, Nair, et al., 2022). Given that literacy is such an expansive term that covers a myriad of literacies practices across languages, modalities, and cultural contexts, studies centering the HLE need to be critically examined for their scope. For example, rather than using terms like "home literacy environment" or "home literacy practices", a recommendation given the result of this study is to use terminology that more accurately describes the concept under investigation. If research is focused on book reading, researchers can use "reading practices at home". Otherwise, using "literacy" without specifying what one means only serves to reify white middle class standards and erase literacy practices practiced by culturally and linguistically marginalized communities and further reifying the field's zero-point hubris (Castro-Gómez, 2007). Moreover, I recommend that researchers and clinicians explore alternative literacy frameworks that recognize the linguistic and literate assets of marginalized communities while de-centering literacy practices associated with Whiteness, such as translanguaging literacy (García & Kleifgen, 2020) and a pedagogy of multiliteracies (Cazden et al., 1996; Street, 1984). Other literacy frameworks include language architecture,

which posits students as language architects who use their language and literacy resources to achieve specific purposes (Flores, 2020). Border literacies, the everyday language and literacy practices of people who regularly cross national, social, and linguistic borders, can also serve as another literacy framework that can be incorporated into HLE research (Degollado et al., 2021; Nuñez Martinez et al., 2025). Anti-Racist Black language pedagogy de-centers traditional language education that has as its objective assimilating Black children to acquire "academic language" while centering critical discussions around language, literacy and power in analyzing texts and can serve as yet another literacy framework to center the experiences of linguistically marginalized communities (Baker-Bell, 2020). Researchers can also expand the types of capital included in their research when including individuals in their conceptualizations of HLE. For example, Yosso's model of Community Cultural Wealth (2005) describes asset-based capital that marginalized backgrounds use to support their children in their home.

When definitions of the HLE disregard the literacy practices of marginalized communities, they reinforce inequities by construing these communities as deficient against White-centric standards. Taking more expansive approaches that resist limited Western, graphocentric notions of literacy is one way to honor the diverse home literacy environments of children and families residing in the United States, and a step toward more equitable literacy research. Following this process, researchers can direct their research in ways that take into account the variety of literacy practices families engage in their home in theorizing and providing recommendations to practitioners.

STUDY 3: "Yo quiero cantar para ellos": Literacy Practices of Disabled Bilingual Children and Their Latina Immigrant Mothers

Literacy is a skill that allows individuals to read the word and the world (Freire & Slover, 1983). Beyond the written word, literacy takes many forms depending on the cultures of the individuals practicing it. However, the literacy practices of multiply marginalized populations are understudied and misunderstood. This results in educators and researchers describing the literacy practices of linguistically minoritized individuals as disorganized, a label that reflects a deficit-oriented view rather than an acknowledgement of the rich, culturally embedded multimodal strategies families actually use (C. L. Brown, 2004; González, 2005; Silva & McCabe, 1996). This deficit framing of literacy practices through deficit frameworks may impact how linguistically minoritized children's language and literacy abilities are perceived in schools by teachers and related educational professionals. Therefore, documenting literacy practices of emergent bilingual children labeled as disabled (EBLAD) and their caregivers is crucial, as this information can inform curriculum, assessment, interventions, and accommodations. Previous research on literacy typically examines a single axis of identity (e.g., ethnicity or disability) rather than their intersections. An intersectional approach (Collins & Bilge, 2020) is necessary to address the heterogeneity of linguistic and cultural practices of multiply marginalized communities, such as those who are Latinx, immigrants, and disabled.

Although there has been some research on how home and community practices can be incorporated into general curriculum design for Latinx youth (Melzi et al., 2018), contemporary studies have yet to examine how EBLADs and their families engage in a variety of literacy practices informed by the experience of being both bilingual and disabled. Tapping into the home and community storytelling practices may provide educators and families the tools to

provide culturally relevant language and literacy support to EBLADs, incorporate these practices into school curriculum and school-based special education services, and expand how they view the language and literacy practices of EBLADs beyond normative Western notions of literacy. This study employed a plática methodology, a culturally-informed approach to data generation that centers Latinx ways of knowledge sharing through pláticas, or conversations, (Fierros & Bernal, 2016). Drawing from data generated through these pláticas, I argue that the literacy practices EBLADs and their families engage in defy deficit-based discourses around bilingualism and disability to forge connections to each other, their intersectional identities, and serve to prepare them for their futures.

Bilingual Latinx Disabled Children in the United States

Many children in the United States are bilingual and experience some form of communication-based disability, such as autism and Developmental Language Disorder. According to a survey from 2012, 6.9% of Latinx/Hispanic children in the United States have a communication-based impairment (Black et al., 2015). These conditions, along with societal level barriers, bring challenges to EBLADs that occur at the intersection of bilingualism and disability, such as the notion that children either need bilingual support or support for their disability, but seldom both (Cioè-Peña, 2022). Moreover, there is a pervasive notion that bilingualism will cause a delay, leading many Latinx families to be counseled against using their home language with their children (Cioè-Peña, 2020a). However, there is no evidence that a learning multiple languages will lead to language delays (Peña et al., 2023). Although some families have internalized prevailing deficit discourses surrounding bilingual language delay, (Cioè-Peña, 2020a; Leech & Solís, 2026), they nonetheless maintain a strong value for

bilingualism, creating tensions that complicate the formation and maintenance of home language policies.

Translanguaging and Multiliteracies in Bilingual Disabled Populations

Translanguaging is a theory of language that describes the multilingual and multimodal languaging practices individuals engage in, drawing from a variety of semiotic systems such as named languages, non-linguistic symbols, gesture, and audio (García, 2009; Li, 2018). Garcia et al. (2017) use the metaphor of a translanguaging corriente, or a current, to describe the dynamic movement of linguistic resources to participate in communicative acts that transcend socially constructed boundaries between named languages and between linguistic and nonlinguistic semiotic systems (Li, 2018). Translanguaging also accounts for the cultural backgrounds of individuals who practice a language (Makalela, 2015). Translanguaging is not merely the use of different named languages for communication, but also a political act language users engage in for linguistic self-determination and to resist marginalization (Flores, 2014). Moreover, a translanguaging approach defies deficit-based perspectives and language hierarchies by recognizing the communicative assets multilingual children bring to their communication environments (S. Wang et al., 2021). Applied to literacy, translanguaging valorizes the various forms of semiosis available to children to compose texts, such as spoken, written, signed, and technological modalities (García & Kleifgen, 2020). Relatedly, a pedagogy of multiliteracies describes the multiple modes that literacy may take in making sense of their world (Cazden et al., 1996; Cope & Kalantzis, 2000). Furthermore, literacy does not solely occur in the individual but happens socially, in community, and engages multiple modes of communication to express and receive information (García & Kleifgen, 2020; Keefe & Copeland, 2011). From a sociocultural perspective, these multiliteracies are culturally mediated (Nasir & Hand, 2006). Therefore,

cultural background is an essential analytical axis when investigating literacy practices of linguistically minoritized populations.

Although there is a growing body of literature that applies a translanguaging and multiliteracies framework of bilingual individuals with disabilities (Cioè-Peña, 2022; Cioè-Peña et al., 2025; Gárate-Estes et al., 2022; Padía et al., 2024; Przymus & Alvarado, 2019), scholars have critiqued the absence of disability from translanguaging discourse for perpetuating a lack of understanding of the languaging practices of EBLADs (Cioè-Peña, 2020b, 2022; Kusters et al., 2017). Understanding more about how disability and multilingualism influence the types of literacy practices EBLADs and their families engage in is crucial for researchers, educators, and clinicians to support them through a strengths-based approach rather than viewing them from normative literacy practices of non-disabled populations. Moreover, centering the perspectives of people who care for EBLADs (e.g., mothers) is imperative as they are typically assuming the role of early facilitators of EBLADs' language and literacy socialization. Therefore, more work needs to be done in these populations to ensure that research and practice are informed through an analytical lens of bilingualism and disability to best serve these populations. This study addresses this gap by investigating the home language and literacy practices of EBLADs as reported by their caregivers.

Chicana Feminism in Literacy Research

A Chicana feminist approach to education and literacy research is resists the deficit perspective forced on Latinx communities for not conforming to White, middle-class, Western linguistic and literacy norms (Bernal, 2009; González Ybarra & Saavedra, 2021). Through a Chicana feminist approach, the perspectives of Latinas are centered for intersectional analyses of gender, race/ethnicity, and class (Bernal, 2009). Moreover, accounting for various intersectional

identities and how institutions, like education, impact these complex identities is essential for more equitable research. A Chicana feminist perspective of education, for instance, centers pedagogies of the home, enabling recognition of Latinx children's creative applications of that education into spaces outside the home, such as schools (Bernal, 2001). Applied to literacy, scholars have applied Chicana feminism to investigate the various literacy practices that are often invisibilized in traditional literacy research. Building upon the understanding that places and people influence how people read the world (Freire & Slover, 1983), González Ybarra and Saavedra (2021) argue that centering racialized bodies in the study of literacy practices can foreground knowledge from the margins. The significant role Latina immigrant mothers assume in raising EBLADs (Cioè-Peña, 2020c, 2020a, 2021) necessitates a research framework that privileges their voices and experiences. Chicana Feminism offers such a framework, positioning these mothers as knowledgeable agents while grounding the inquiry in strengths-based epistemology.

Understanding Disabled Language and Literacy Practices Through Pláticas

Pláticas are a culturally relevant form of engaging with Latinx communities through dialogue in which familial, cultural, and historical stories are shared through informal one-on-one or group gatherings (Fierros & Bernal, 2016; Guajardo & Guajardo, 2013). Pláticas function as both a research method and methodology designed to center the epistemologies of Latinx communities, offering an alternative to traditional research models that have historically failed to serve these communities adequately (Fierros & Bernal, 2016). Pláticas have been seen as a data generating approach that decenter dominant, colonial research approaches (Gaxiola Serrano, 2023). Relationship building is an essential component of pláticas, as this methodology requires

researchers to honor participant stories, in contrast to extractive data generation of traditional research (Guajardo & Guajardo, 2013).

In the realm of bilingual education, pláticas have been used to investigate bilingual pre-service and in-service teachers' perspectives on bilingualism, biliteracy, and culturally relevant pedagogies (Degollado, 2023; Ingram & Palmer, 2023; Milk Bonilla et al., 2026). Bilingual educators have been documented using pláticas as a pedagogical strategy to support literacy skills emergent multilingual children (Cuevas-Guerra, 2025; Flores-Dueñas, 1999). Similarly, pláticas have been used to explore how Latina mothers support their children's language and literacy practices (Delgado & Larrotta, 2022; Nuñez, 2023). Although pláticas have been utilized in these ways, there is a dearth of literature that examines literacy values of parents of children labeled as disabled (Wakeman et al., 2021). The research that does gather caregiver input for disabled children does not include culturally and linguistically minoritized populations (Leroux et al., 2024) or, if focusing on minoritized populations, uses pre-existing surveys based on Western literacy norms, and not the cultural norms of the participants (Roberts et al., 2025). Building on these prior studies, I investigate the language and literacy practices of Emergent Bilinguals Labeled as Disabled (EBLADs) (Cioè-Peña, 2020b), centering the lived experiences of Latinx families through pláticas. Given the educational importance that previous work on storytelling traditions has highlighted for the general population, focusing on disabled communities is imperative to better understand best practices for language and literacy assessment, intervention, and accommodation for disabled multilingual communities.

An Intersectional Approach to Examining Literacy at the Axes of Linguistic Background and Disability

Intersectionality is a framework developed by critical race theorists and Black feminists that examines how multiple axes of power relations influence social phenomenon (Brooks, 2018; Collins & Bilge, 2020; Crenshaw, 1991). Brooks (2018) describes three theoretical principles to enact intersectionality in research and practice: 1) reject single-axis analyses, 2) categories of difference are mutually constitutive, and 3) explicitly challenge inequality. Rejecting single-axis analyses allows researchers to illustrate a more complete analyses of phenomena influenced by intersecting identities. These intersecting identities are not merely additive. Rather, they are co-constructed and mutually constitutive. Furthermore, an intersectional approach recognizes the interplay between individual and institutional factors, linking individual-level phenomena to broader systemic structures. Given that power is also at the center of language and literacy (De Souza, 2016; Savski, 2024), applying an intersectional approach to literacy research is imperative to challenge inequality and put forth equitable educational practices for disabled bi-/multilingual children.

In the realm of language, literacy, and disability, scholars have taken an intersectional approach to investigate the axes of disability, language, and/or other identities. For example, scholars have posited the co-construction of language and race (Flores & Rosa, 2015), race and disability (Annamma et al., 2013b), and language and disability (Cioè-Peña, 2022; Henner & Robinson, 2023). These studies have highlighted the ways language and disability are mutually constitutive with other categories of identities. Taking a single-axis analysis to research risks the erasure of intersectional experiences in favor of dominant groups (Brooks, 2018). For example, researchers have found that being disabled and bilingual makes reclassification from English

learner to English proficient less probable (Schissel & Kangas, 2018). Furthermore, bilingual students with disabilities occupy an intersectional space in which their linguistic and disability-related needs are systematically overlooked (Cioè-Peña, 2017, 2022). Consequently, an intersectional framework examining language, literacy, and disability is essential to identifying and advancing equitable educational practices for young bi-/multilingual children with disabilities.

Literacy Practices of Nondisabled and Disabled Latinx Communities

Extant research on EBLADs has disproportionately employed a deficit perspective, centering on what individuals cannot do rather than adopting a strengths-based approach that acknowledges their linguistic capabilities (Cioè-Peña, 2020a; Valencia, 2012). In some cases, the literacy practices and characteristics of Latinx communities are not only devalued but are also criminalized. For example, Rosa's (2019) work with Chicago Latinx high schoolers highlights the many literacy practices they engage in that the school devalued and criminalized such as writing notes, tagging, rap lyrics, text messages, and social media. Rosa also found that the youth in this study preferred to engage in books that used their register of language over "standardized literacy" that utilized "standardized registers of language" (p. 199). Other storytelling traditions documented in Latinx communities include family anecdotes, chistes/jokes, teasing, legends or children's stories, horror stories, historical anecdotes, and dichos/proverbs (Eisenberg, 1986; Reese, 2012; Yosso, 2005). Additional research has described Latinx children's stories as focusing on family relations, everyday life, description, and evaluation and less on event sequencing prevalent in Western middle-class storytelling (Rosa, 2019; Silva & McCabe, 1996). Consejos, or "nurturing advice", constitute a type of cultural literacy practice used in Latinx communities (Delgado-Gaitan, 1994; Piedra, 2013). Latina mothers use consejos, or nurturing

advice, to transmit knowledge (Villenas & Moreno, 2001). Extant literature suggests that familial consejos serve as a navigational resource for individuals and families confronting the challenges inherent in transitioning to higher education (Carrión & Torres, 2023; Nuñez Martinez et al., 2025). Similarly, Velarde Pierce (2023) found that consejos from mentors helped Latinas take on leadership roles in higher education.

Children with communication-based disabilities are currently under-researched in culturally-based literacy work. Extant research on storytelling has primarily focused on the spoken modalities of stories and left out other storytelling embodiments like gestures, paralinguistic, and nonverbal artifacts that communicatively disabled people may use in telling narratives (Hydén & Antelius, 2011). Continuing to elicit narratives from this population with the expectation to conform to communicatively nondisabled population standards what Hydén and Antelius (2011) call "narrative norms of the researcher", (p. 592) will only show us deficits and not the creative ways in which children with communication-based disabilities recruit a variety of repertoires to communicate (Henner & Robinson, 2023).

Some research has focused on the literacy experiences of children with disabilities. For example, Roberts et al. (2025) investigated caregivers of children with intellectual disabilities and how they framed literacy when defining it on their own. They found that caregivers defined literacy with their disabled children beyond traditional reading and writing skills to include connection, access, music and the arts, and culture and community. Similarly, Beneke et al. (2025) studied how disabled children and their caregivers used language and literacy practices, such as writing and art, to process social crises. However, few studies focus on Latinx, multilingual children with disabilities and their language and literacy practices. Investigating the literacy practices of Latinx disabled individuals is imperative, given that disabled people's

literacy achievements are invalidated because they do not fit problematic notions of normality at the intersection of ability and linguistic background (Kliewer et al., 2006). Understanding how EBLADs and their families do literacy as a social practice is important to inform educators and clinicians about how to best support this population as 6.9% Latinx in the United States are identified with a communication-based disability (Black et al., 2015)

Purpose of the Current Study

In this study, I use plática methodology (Fierros & Bernal, 2016) to investigate my primary research question: How do EBLADs and their families engage in literacy practices at the intersection of bilingualism and disability?

Methodology

I draw from translanguaging literacy (García & Kleifgen, 2020), a multiliteracies framework (Cazden et al., 1996; Cope & Kalantzis, 2000) and Chicana feminism (Bernal, 2001, 2009) to analyze the language and literacy practices caregivers share their EBLAD children engage in. I used virtual focus groups pláticas (Fierros & Bernal, 2016), given the advantages focus groups have in being used for exploratory purposes to gain in-depth information in an understudied area such as this one (Morgan, 1997; Stewart & Shamdasani, 2014). Additionally, focus groups in Latinx populations are ideal when there are power dynamics around gender and social capital, by placing participants with peers who share similar experiences (Umaña-Taylor & Bámaca, 2004). I used photovoice methodology (Catalani & Minkler, 2010; Javier & Swistun, 2012; Sutton-Brown, 2014) in which participants can represent their storytelling values through multimedia, such as photographs and videos. Photovoice methodology draws on critical consciousness and feminist theoretical frameworks as an accessible form of participation for people with various literacy backgrounds, making it ideal for the participants in this study (C.

Wang & Burris, 1997). Moreover, photovoice is a form of participants to engage in translanguaging in the research process (Lee, 2022; Li, 2022) by allowing participants to engage in various modalities to share their experiences (i.e., speech, photographs, audiovisual media).

Positionality

Although it is impossible to address all parts of my intersectional identities in this paper, reflection and reflexivity are important in relational research to understand who I, as the researcher, am in relation to participants and what effects these identities have on the research (Canagarajah & Stanley, 2015). I am a Latinx-identifying researcher who is the son of an immigrant mother who also raised a child, my brother, who would be considered an Emergent Bilingual Labeled as Disabled (EBLAD) through his autism diagnosis. These experiences, adjacent to those of the mothers in this study, facilitated my entry into this research. I also grew up bilingual, speaking my parents' Spanish in rural Mexico along with the English I learned upon entering school systems in the United States. These language skills allowed me to engage in the pláticas myself, and my cultural background provided the cultural intuition (Bernal, 2009) to engage deeply with the stories these mothers shared, especially around growing up in Mexico, as I made connections with the stories my parents, grandparents, and extended family have told me. However, some of the caregivers in this study were not from Mexico. One mother was from Honduras and another from Peru. In these moments, I had to pause and reflect with a critical peer about not letting my positionality allow me to get too confident about what I think I know.

My cis-male identity was also another part of my identity I iteratively reflected on, given the potential gendered power-dynamics that could play out. Because caregiving of children is a historically feminized role, I tried to open myself to learning when it came to these topics in this study. I also had to be aware of my documentation status as another point of privilege, as many

of the participants were undocumented and lived in legal precarity, given that the political climate at the time of data generation included increased and highly visible immigration enforcement presence and raids in Southern California. Finally, aware of the presence of a power imbalance given my identities as a researcher tied to a university and a speech-language pathologist, I made a conscious effort to highlight in every session that the space was one in which everyone's knowledge is validated, not just mine.

Participants and Settings

The focus of this study was Spanish-speaking Latinx mothers of EBLADs in elementary school with individualized education plans (IEP) qualifying them for speech-language services. Recruitment for this study was done in partnership with a community organization in a medium-sized city in Southern California. Flyers were emailed to caregivers on their listserv, with the following inclusion criteria: 1) have elementary school-aged children with an IEP with "speech or language impairment" in the area of "expressive/receptive language delay", 2) Parent/caretaker grew up in Mexico, and 3) Spanish is used in the home. Initial rationale for indicating caretaker grew up in Mexico was 1) due to the cultural nature of language and literacy practices and 2) Mexicans being the largest group of Latin American immigrants in the United States and in Southern California where the study took place (Piña & Martinez, 2025). Through the recruitment process, individuals who expressed interest met all criteria except for criterion 2: one mother grew up in Peru, one mother grew up in Honduras, and one mother grew up in the United States but was of Mexican heritage. These individuals were still recruited into this study due to their expressed desire to find support for their children and their identities as under the Latinx umbrella (Chávez-Moreno, 2021). Participants were compensated with a $20 gift card for

each meeting attended and one tote bag containing books at the end of the study. See Table 1 for relevant demographic information.

Table 4. Participating mother and child with speech/language IEP (all pseudonyms)

	Mother	Country of Birth	Child	Age	Gender	Services Received	Additional Diagnoses
Plática Group A	Perla	Mexico	Jorge	9	Male	Speech/Language	Autism
	Rosa	Peru	Eliza	7	Female	Speech/Language	
	Maria	Mexico	Yahir	8	Male	Speech/Language	Autism
	Paulina	Mexico	Pedro	8	Male	Speech/Language	Autism
	Natalia	Honduras	Cristobal	3	Male	Speech/Language	ADHD
	Veronica	Mexico	José	8	Male	Speech/Language	
Plática Group B	Patricia	Mexico	Marcos	5	Male	Speech/Language	
	Liliana	Mexico	Vicente	5	Male	Speech/Language ABA	
	Soledad	Mexico	Emily	7	Female	Speech/Language Reading	Achronoplasia
	Bianca	United States	Jennifer	9	Female	Speech/Language	
	Amparo	Mexico	Miguel	10	Male	Speech/Language ABA	Autism

Data Collection

I drew primarily from video recordings, transcripts, images, and multimedia shared in pláticas and interviews. The data in this study were generated from two cohorts of mothers. Each participant was interviewed using the Center for Early Care and Education Research - Dual Language Learners (CECER-DLL) Questionnaire in Spanish to gather demographic and language/literacy information from participants (Hammer et al., 2022).

Participants were placed in the two pláticas virtuales, or virtual conversations groups (Nuñez, 2023) based on reported availability. Focus groups pláticas were conducted via a virtual conferencing platform. I decided to utilize virtual pláticas to 1) alleviate the burden of transportation to a physical location and childcare for participants and 2) to protect participants during the hostile political climate of the immigration raids happening in Southern California at the time of the study (Hernandez & Toohey, 2025). Both groups met six times for weekly consecutive pláticas for about an hour and a half, totaling about 18 hours of recordings for the two groups combined. For each plática, participants had a photovoice assignment (Catalani & Minkler, 2010, 2010; Sutton-Brown, 2014) that they had to send an image or video in response to the theme of the week. The themes for weeks 2-5 were selected by the researcher to focus on several facets of child and caregiver language and literacy practices. For the final plática session, participants were tasked with coming up with the photovoice assignment theme (see Table 5 for list of plática themes). These images and videos were displayed for all participants to see and served to generate conversation related to the theme of the week. During the pláticas, the researcher asked follow-up questions and probes asking participants to expand on what they were sharing and asking others in the group if they had similar or different experiences. Interview and plática recordings were transcribed using digital transcription software and then checked and edited by the Spanish-speaking author for accuracy.

Table 5. Plática schedule and photovoice assignments

Plática #	Photovoice Assignment
1	none, introductory session
2	Trae una foto/video que muestre lo que es contar historias para tu hijo/a [Bring a photo/video that shows what storytelling means for your child]
3	Trae una foto/video que muestre lo que es contar historias para ti [Bring a photo/video that shows what storytelling means for you]

4	Trae una foto (o video) a la próxima reunión que muestre a tu hijo/a enfrentando un desafío con una historia. Esta puede ser cualquier historia: de libros, televisión, películas, cuentos familiares, etc. [Bring a photo (or video) to the next meeting that shows your child facing a challenge related to a story. This can be any story: from books, television, movies, family stories, etc.]
5	Trae una foto (o video) que muestra a tu hijo/a experimentando cuentos en múltiples idiomas. [Bring a photo (or video) to the next meeting that shows your child experiencing stories in multiple languages]
6A	Trae una foto (o video) a la próxima reunión que represente las tradiciones basadas en el lenguaje y cuentos de nuestros antepasados. [Bring a photo (or video) to the next meeting that represents traditions based on the language and stories of our ancestors.]
6B	Trae una foto (o video) a la próxima reunión que muestre el uso del lenguaje de manera alegre y divertida en familia. [Bring a photo (or video) to the next meeting that shows the use of language in a joyful and fun way within the family.]

note: For plática session 6, participants selected their own photovoice assignments. Plática 6A's assignment was chosen by group A and 6B's assignment was chosen by group B.

Analysis

I followed flexible coding procedures as described by Deterding and Waters (Deterding & Waters, 2021). I first indexed focus group transcripts by identifying literacy events, defined by Heath as "any occasion in which a piece of writing is integral to the nature of the participants' interactions and their interpretative processes" (1982, p. 93). I modified Heath's literacy events for this study to follow a translanguaging and multiliteracy definition of literacy by adapting Keefe & Copeland's (2011) definition of literacy: "to develop meaning making with all human modes of communication to transmit and receive information" (Keefe & Copeland, p. 97)." Therefore, I defined a literacy event as any occasion in which children and caregivers are making meaning with any mode of communication (e.g., writing, speech, images, audiovisual media, etc.) to transmit and receive information. After indexing transcripts into literacy events, I indexed each literacy event for the presence of multilingualism and/or disability.

After indexing transcripts, I inductively coded focus group transcripts, photographs, videos, interviews, and other artifacts inductively on a Dedoose, a digital qualitative analysis software (SocioCultural Research Consultants, LLC, 2025). My initial coding was a line-by-line gerund coding (Charmaz, 2012) to remain open to processes that emerge from the data and, therefore, expand on what has already been researched. Coding and analysis was done iteratively throughout this stage of the project to increase the rigor and quality of the study (Bingham, 2023). After several rounds of coding and refining codes by presenting codes to peers, I utilized thematic analysis to identify responses that are linked by common themes (Braun & Clarke, 2006). Trustworthiness of this study was further ensured by engaging in participant review (C. Marshall et al., 2021), also known as member checks (i.e., sharing analysis with participants and adjusting as needed depending on their input); Thus was carried out to ensure participants are included in the qualitative analysis process, as this study is rooted in community-generated descriptions of storytelling. Conducting participant review increases the credibility of the study by serving as a crystallization (i.e., using multiple theoretical lenses to analyze data) of the data and analysis (C. Marshall et al., 2021). Participant review was held for both groups in the last session (session 6), where preliminary analyses were presented to participants. Participants were asked to share if the analysis was consistent with how they understand their home narrative practices, and if there were any ways their understandings diverged.

Findings

Drawing from caregiver pláticas, I identified salient themes in recurring caregiver-reported literacy practices to answer my research question: How do EBLADs and their families engage in literacy practices at the intersection of bilingualism and disability? Analysis revealed the following themes: (1) Resisting deficit-perceptions of bilingualism and disability through

language and literacy practices, (2) fostering connections to cultural heritage and disability identities (3) forging connections through linguistic flexibility and books, (4) using consejos to navigate disability hardships.

Resisting Deficit-Perceptions of Bilingualism and Disability Through Language and Literacy Practices

Many caregivers shared that they engaged in language and literacy practices to explicitly reject deficit perspectives of bilingualism and disability. Several mothers shared that they continued to engage in language and literacy practices in their home language, Spanish, despite deficit-based narratives they heard from pediatricians, speech-language pathologists, and their extended families because they valued their children maintaining their home language. Perla, mother of a 9-year-old autistic son named Jorge, shared a moment in which she was advised by her son's speech-language pathologist to let him use only English. She rejected this recommendation stating: "Y yo, no me puse a contrariarla, pero prácticamente yo seguía mi lenguaje, mi español con él" [And I didn't argue with her, but I basically kept using my language, my Spanish, with him]. Perla's resistance is discreet, not pushing back on the speech-language pathologist in the moment, but resisting at home by continuing to use Spanish with Jorge. Building on this, María, mother of an 8-year-old autistic named Yahir, shared the following interaction she had with her child's pediatrician:

> Es lo que me ha dicho siempre el pediatra. "No lo confundas. Déjalo que solo hable inglés porque en lugar de hacerle un bien, le estás haciendo un mal". Y ahorita lo que veo yo con él es que él está tratando de hablar. El español lo hace tal vez con palabras no muy bien dichas, pero él lo está haciendo. Veo que sí lo puede agarrar ese idioma. Veo que no es como a mí me han dicho. "Lo voy a confundir. Él se va a frustrar porque no va a poder

hablar". Sí, se puede. Los niños sí pueden hacerlo.

[That's what the pediatrician has always told me: "Don't confuse him. Let him only speak English because instead of helping him, you'll be harming him." But what I see now with him is that he's trying to speak. He speaks Spanish maybe with words that aren't pronounced very well, but he's doing it. I can see that he can pick up the language. I can see it's not like what I was told: "You're going to confuse him. He's going to get frustrated because he won't be able to speak." Yes, it is possible. Kids really can do it.]

María reflects on how, despite advice from a medical professional warning her against using multiple languages in the home, she resists the myth of a bilingual delay (Peña et al., 2023) based on the experiences she has had with her son. She valorizes her son's effort of using Spanish over idealized notions of linguistic purity that only value language that fits mythical native speaker norms. María continues to describe Yahir's interest in learning multiple languages as evidence she uses to reject the notion that multiple languages harm her son. Yahir teaching himself Arabic on his tablet and, in turn, talking to his mother about grammatical components of the language, such as engaging in metalinguistic conversation about gender marking in Arabic. María shares the following vignette from a plática she shared with Yahir: "[Mi hijo] me dice: '¿tú sabes qué quiere decir *habibi*?...Quiere decir *mi amor*...Eso se lo dicen las mujeres a los hombres. *Habibi*. Yo, si te quiero decir, *mi amor*, te voy a decir *Habibati"* [[My son] says to me, 'Do you know what *habibi* means? … It means *my love*… That's what women say to men. *Habibi*. If I want to say *my love* to you, I would say *habibati*.']. María expresses the wonder she feels when she sees her son get curious about learning other languages outside of English and Spanish. She takes these experiences and uses them to inform the multilingual practices she engages with her son, explicitly rejecting deficit notions of bilingualism and disability: "lo que a veces nos dicen los

especialistas no es verdad, que digan: 'Lo vas a confundir con otro idioma'" [What specialists sometimes tell us isn't true, when they say, 'You're going to confuse him with another language.']. María is explicitly rejecting the notion that her autistic son should not use multiple languages, follows in his lead in letting him explore his language interests, and rejects ableism imposed on her and her family by a medical professional.

Defying the recommendations of medical professionals, like pediatricians and speech-language pathologists, represents a defiance of the cultural and linguistic norms of the new country for these immigrant mothers. Both Perla and Maria live in precarious positions as Latina immigrant women in the United States, but they nonetheless defy linguistically oppressive advice rooted in ableism and linguicism to continue to practice their home language with their EBLADs. Caregivers and their EBLADs draw on multilingual language and literacy practices, such as encouraging children to learn a new language and continuing to practice their home language, to reject deficit perspectives of bilingualism and disability. This defiance is in the service of continuing to instill values of preserving their home language and helping them in practicing new languages if it interests them.

Connections to Cultural Heritage and Disability Identities

Mothers shared a link between practicing their home languages with their children and maintaining a connection to their cultural heritage from their home countries through a variety of language and literacy practices. For several of the mothers, maintaining a connection to their heritage countries through the language and literacy practices was a priority for them, as some of them lamented that visiting their home countries was inaccessible for a variety of reasons. Building on this, María shared this connection between how she views the Spanish language and her Mexican heritage: "...a mis tres hijos les he inculcado el español porque tanto el papá como

yo, somos mexicanos. Nuestro idioma principal es el español" [...I have instilled the Spanish language in my three children because both their father and I, we are Mexican. Our primary language is Spanish]. Here, María connects the Spanish language with their collective identity as Mexicans. Moreover, other mothers, like Paulina, mother of 8-year-old autistic son Pedro, shared that they engage with Spanish language and literacy in the Mexican bingo game, *lotería*, to connect to their Mexican heritage. Paulina shared a video during one of the pláticas of her playing *lotería* with her two sons (see figure 6 for a screenshot) and discusses how she practices language and literacy with her son through *lotería:*

> Yo tengo una lotería mexicana. Pues están en español las cartas. Yo y mis dos niños nos ponemos a echar la lotería con las cartas en forma de divertirnos, y es como que también contar historias. Porque, pues, ¿quién no ha jugado la lotería mexicana?...Bueno, yo lo hago por mi niño porque así igual desarrolla o trata de decir las palabras en el idioma español. Aunque no lo dice perfectamente, lo intenta hacer…Porque nos representa a nosotros como mexicanos, se puede decir, o como latinos. No sé, ¿quién no ha jugado en su momento con su familia a la lotería, verdad?
>
> [I have a Mexican lotería. Well, the cards are in Spanish. My two kids and I sit down to play lotería with the cards as a way to have fun, and it's also kind of like telling stories. Because, I mean, who hasn't played Mexican lotería? Well, I do it for my child because that way he also develops, or at least tries to say the words in Spanish. Even though he doesn't say them perfectly, he tries to do it. Because it represents us, you could say, as Mexicans, or as Latinos. I don't know, who hasn't, at some point, played lotería with their family, right?]



Figure 6: Playing lotería

For Paulina, the importance of facilitating language and literacy experiences to both support her son's home language development and connection to cultural heritage is evident in how she talks about the importance of playing *lotería* with her son, Pedro. She specifically names the linguistic nature of *lotería*, in that the cards have Spanish print on them and the act of reading the cards aloud to practice spoken and written language. Additionally, her association of *lotería* with cultural heritage as Mexicans/Latinos affirms that it is important for her to include culture with language and to connect to their heritage. These literacy practices focused on oral language and print would otherwise be obscured by the deficit thinking that is often put on EBLADs and their families.

Soledad, mother of 7-year-old Emily, echoed Paulina's effort to connect language, literacy, and cultural heritage identity by engaging in pláticas with her daughter in English and

Spanish. During a plática about Soledad's childhood in Mexico, Soledad shares about the agricultural practices surrounding *milpas* (cornfields) she participated in as a child with Emily:

> Y pues ya uno le va explicando: "Mira, este, en México pues así se llama: milpa. Y tiene el elote, el *corn*", le digo, "el que te gusta a ti". "¿Qué es eso?" [mi hija me pregunta]. Y ya le digo en inglés y ya capta las cosas. Y le digo: "Mira, eso es lo que te comes tú, el *corn*. De aquí viene el *corn*", le digo. "Y allá en México lo sembraba uno mucho", le digo, "para hacer el maíz, y del maíz viene la masa también para las tortillas". Ahí ya va dándose ideas de todo eso, de la cultura de uno también.
>
> [And so, I start explaining to her: "Look, this, in Mexico, this is what it's called: *milpa*. And it has *elote*, corn," I tell her, "the one you like." Because there are words that kind of stick. "What's that?" [my daughter asks me]. And then I tell her in English and then she gets it, she understands things. And I tell her: "Look, that's what you eat, corn. Corn comes from here," I tell her. "And back in Mexico we used to plant it a lot," I tell her, "to make maize, and from the maize comes the *masa* [dough] too, the *masa* for tortillas." And little by little she starts getting ideas about all that, about one's culture too.]

In this excerpt, Soledad draws on multiple named languages in her plática with her daughter to connect her with her own culture through the agricultural practices she used to participate in as a child in Mexico. At the same time, Soledad is accessing her and her daughter's entire linguistic repertoire by drawing on concepts in both Spanish and English (i.e., using the English label, "corn", in addition to the Spanish label, "elote") to help her understand what life was like for her in Mexico and linking that memory to something that Emily, having grown up in the United States, is familiar with (i.e., corn that she likes to eat, tortillas). Soledad, like other mothers in this study, engage in translanguaging and multiple literacies through written and spoken

language to build stronger connections with the countries they immigrated from and expand their children's linguistic repertoire through engaging in multiple named languages.

Parents shared that they engaged in literacy practices to support their children in connecting with and understanding their disability. Mothers lamented the challenges their children faced, which they connected to a pervasive lack of disability awareness and understanding at both the individual and societal levels. This perceived ignorance from society was felt by mothers and EBLADs in this study through bullying and ableist insults from family members and peers. Therefore, it was important for mothers to practice language and literacy that centered disability with their children to have conversations around their disability to better understand themselves as disabled individuals. Building on this, María shared a video of her and her son, Yahir, singing a song in the car together for the prompt "Bring a photo/video that demonstrates what telling stories means for your child" (see figure 7 for a video screenshot). María shared that her son helped her choose this song for the photovoice assignment:

> Que canten los niños que viven en paz
>
> Y aquellos que sufren dolor
>
> Que canten por esos que no cantarán
>
> Porque han apagado su voz (Perales, 1986)
>
> [Let the children sing who live in peace
>
> And those who suffer pain
>
> Let them sing for the ones who'll never sing
>
> Because their voices were taken away]



Figure 7: Singing in the car.

María elaborated on why she and her son chose to share this recorded song with the plática group. She explained that her son helped her pick it out from a song he sang with his speech therapist:

> Y la terapista le preguntó: "¿Por qué te gusta esa canción?" Y él contestó: "Porque yo quiero que todos los niños que están enfermos…", porque él dice que es una enfermedad lo que él tiene, ¿verdad? Dice: "Todos los niños que están enfermos como yo, algunos no hablan". Dice: "Yo quiero cantar para ellos".
>
> [And the therapist asked him, "Why do you like that song?" And he answered, "Because I want all the children who are sick…", because he says that what he has is an illness, right? He says, "All the children who are sick like me, some of them don't speak." He says, "I want to sing for them."]

The song's message about singing for children whose "voices were taken away" resonates with Yahir's understanding of his communication challenges. Yahir's engagement in singing a song in Spanish, a literacy practice María shared they do often, is how he raises his voice for other children who have been marginalized for their communication-based disabilities. These literacy experiences shared by mother and child can be empowering ways to help children with disabilities find interest in disability advocacy, as demonstrated by Yahir's expressing that he wants to speak for others like him.

Singing in Spanish about disability-related causes Yahir cares about is a way that María supports Yahir's multilingualism development while also connecting to his identity as a disabled individual. As shared by María: "Pero es lo que me agrada porque creo que así voy expandiendo un poco más su vocabulario en español" [But that's what I like about it, because I think that this way I'm expanding his vocabulary in Spanish a little more]. In this way, María facilitates Yahir's connection to his identity through both his bilingualism and his disability.

Liliana, mother of 5-year-old son Vicente, shared a similar vignette demonstrating her connection with her son's disability through shared literacy practices. Liliana is frequently involved in school activities, including reading books to her son and his class, primarily in Spanish. This literacy practice of volunteering to read bilingual books allows Liliana to interact with her son and other children receiving speech/language services. Liliana shared the following exchange between her and her son related to her visits to read in her son's classroom:

> Y mi niño tiene dos amiguitos que también están en speech y son los niños [con quien] más tiene amistad y le gusta ver esa interacción que tengo yo con ellos. Yo le miro a la cara de felicidad cuando estoy a trabajando con los niños y luego me dice: "Es que tú sí les entiendes".

> [And my child has two little friends who are also in speech therapy, and they are the kids he's closest friends with. He likes to see the interaction I have with them. I can see the happiness on his face when I'm working with the kids, and then he tells me: "It's because you really understand them."]

Liliana's son, Vicente, finds joy in having his mother in the classroom with him because she understands him and his friends who are receiving speech-language services. Caregivers typically rate their own children's intelligibility as higher than those who are less familiar to them (Van Doornik et al., 2018). Liliana's understanding of both her son and her son's friends receiving speech-language services create a familial bond with her son's friends who receive speech/language services that she describes in the same vignette:

> Y el terapista, me dice él, soy como la mamá, que ya me acostumbré a cómo habla cada niño, que cuando vienen a evaluarlos, me preguntan a mí: "¿Qué dijo?" Y yo les respondo. Pero es porque como yo los veo también todos los días, "como la mamá" dice, ya aprendí a cómo habla cada uno de mis niños.
>
> [And the therapist tells me that I'm like the mom, that I've already gotten used to how each child speaks. So, when they come to evaluate them, they ask me, "What did he say?" and I answer them. But it's because I see them every day, "like the mom," he says, I've already learned how each one of my kids talks.]

Liliana sees herself as a mother-figure for the children who have speech/language impairments in her son's classroom due to her regular contact with them in her role as a parent reader volunteer. While her primary reason for volunteering at her son's school is to read books to his class in Spanish, she also gains connections to other children receiving speech-language services through regular literacy-based interactions with them. Her knowledge as a mother of a child with a

speech-language impairment is also leveraged in the classroom by school staff when they assess children by eliciting her perspective on the communication practices of the children. These school-based literacy practices Liliana engages in help her both support her son and the school community through her gained experience mothering children through literacy.

Forging Connections through Linguistic Flexibility and Books

Mothers shared the utility of using bilingual communication through books to support their EBLAD's language skills and forge connection with them. Several mothers shared that they read books written in English and Spanish with their children in a variety of settings, such as the home, and some mothers read books to their children and their peers at their schools, demonstrating that print literacy was something they highly valued. Amparo, mother of 10-year-old autistic son, Miguel, shared an interaction between her and her children regarding a reading experience:

> ...me encontraba libros en inglés, yo le contaba la historia de las que miraba en las pinturas. Y ya después se dieron cuenta que no era lo que yo contaba y lo ven y me dicen: 'Mami, tú nos engañabas, nos echabas mentiras, tú nos decías otras cosas y el libro dice otra cosa', dice. Digo: 'es que quería que ustedes tuvieran algo inolvidable conmigo, algo que nos conectara, porque yo con mi mamá nunca tuvimos esa conexión'.
>
> […I would come across books in English, and I would tell them the story of what I saw in the pictures. And later on, they realized that it wasn't what I had told them. They look at it and say to me, 'Mom, you were fooling us, you were telling us stories, you were saying one thing, and the book says something else.' And I say, 'It's just that I wanted you to have something unforgettable with me, something that would connect us, because my own mother and I never had that connection.']

Having arrived in the United States as an adult, Amparo did not know much English but wanted to share a reading experience with her children. Bilingual books were difficult to find for mothers, so Amparo used a book in English to make up stories in Spanish using the illustrations on the pages to forge connections with her son, Miguel, a motivation for reading that other mothers shared as well. Through books as a storytelling mediator, Amparo tells stories to her EBLAD using her home linguistic repertoire, while not limiting herself to the linguistic code printed on the book.

Practicing linguistic flexibility through book reading to strengthen connection with their children was also reported in the school setting. Liliana shared that she gets involved in her son's education by participating in a group of parents that go to the school and read books:

> A mí me gusta mucho estar involucrada en la escuela con los niños y a ellos les encanta mucho que les vaya a leer. Le digo que tenemos un grupo de padres lectores y vamos una vez al mes...Por lo regular ahí yo pues mi inglés es este muy poco. Trato de hablar más en español y en inglés, a veces nada. Pues llevamos libros en inglés, a veces solamente con los dibujos, a veces, o palabras o frases más cortas, pero de los dos idiomas.
>
> [I really like being involved at the school with the kids, and they love it when I go read to them. I tell them we have a group of parent readers, and we go once a month…Usually, my English is pretty limited. I try to speak more in Spanish, and in English sometimes not at all. We bring books in English, sometimes just with pictures, sometimes with words or shorter phrases, but in both languages.]

Liliana enjoys getting involved in her children's education by visiting her son's school and reading books using a variety of linguistic resources. Liliana, like Amparo, shares that it is important for her to read books to her son even if her English is limited. The importance of

building connections through bilingual book reading is evident in the way these mothers and their children navigate linguistic barriers. These mothers and their children are using books as mediators to follow the translanguaging corriente/current in situations where they may not have in their linguistic repertoire to read the book in the printed language but can still draw on their linguistic repertoire to invent stories using the illustrations or practice translation skills. These mothers reject deficit-based notions of "language barriers" and instead use fluid languaging practices and books to engage in literacy activities with their EBLADs, form connections with them, and support their multilingual development.

Disability Consejos to Navigate Hardships

Caregivers and EBLADs engaged in consejos as a culturally-grounded literacy practice to navigate the myriads of hardships children with disabilities face, such as bullying, sensitivities to sound, and communication challenges. Consejos are the nurturing advice shared in Latinx communities that serve to guide individuals through experiences (Delgado-Gaitan, 1994; Espinoza-Herold, 2007). For the mothers in this study, consejos were tools they gave their children to navigate societal hardships due to their disabilities. Building on this, Amparo shared a moment during one of the pláticas when her son, Miguel, could not speak and therefore had a meltdown when he took him to one of his therapies because she could not understand why he was upset:

> Le decía: "¿Qué es lo que quieres? Dime, señalame. Si no puedes hablar, señalame". Y ya me señalaba las cosas. Le digo: "No te entiendo". Y ya lo tenía que alzar para que él me dijera lo que quería. Pero yo le daba herramientas que él me supiera, con señales, con gestos, con todo.
>
> [I would say to him, "What do you want? Tell me, point to it. If you can't speak, point to

it." And he would point at things. I'd tell him, "I don't understand you." Then I would have to pick him up so he could show me what he wanted. But I gave him tools so he could make himself understood, through signs, gestures, with everything.]

In the absence of spoken communication, Miguel's most intelligible way of communicating was through crying. To help Miguel navigate this challenging situation, Amparo gives him the consejo to communicate with a variety of semiotic resources. The consejo Amparo gives aligns with translanguaging (García, 2009; Li, 2018), where he is given access to his full semiotic repertoire in addition to language, "con señales, con gestos, con todo" [with signs, with gestures, with everything]. This also aligns with Henner and Robinson's description of a Crip Linguistics framework, which valorizes disabled ways of communicating and rejects the prioritization of "speech at the expense of everything else", as this mother describes non-speech forms of communication as "herramientas" [tools] that she provides for her son to follow his translanguaging *corriente*, a flow of communication (García et al., 2017). Miguel's translanguaging *corriente* is not impeded by restrictions of what modalities he is allowed to use to communicate with his mother. Through her consejo, Miguel is encouraged to navigate complex communication terrains by drawing on his entire semiotic, multimodal repertoire to express himself to his mother.

Mothers also utilized consejos with their children to guide their children through bullying experiences, something that many mothers shared their EBLADs experiences. Paulina shared a conversation she had had with her son, Pedro, when she found out children at school were hitting him and calling him names:

…a él en la escuela le pegan y él dice "son mis amigos, it's ok"...Porque él quiere estar con ellos. Él quiere hacer amigos…y le digo "No papi, ellos no son tus *friends*. Si te

lastiman, no son tus amigos. Tú tienes que aprender a decirles que no, que está mal lo que hacen….Luego le dicen que está tonto…y dice "Ah!...I'm dumb", dice, que está tonto. Y le digo "No, no estas tonto, no digas eso". Porque eso le meten en su cabeza de que de que el que está loco...Yo nomás le digo: “No, no está bien, no permitas eso”.

[...At school they hit him, and he says, ‘They’re my friends, it’s ok’...because he wants to be with them. He wants to make friends…And I tell him, ‘No, papi, they’re not your friends. If they hurt you, they’re not your friends. You have to learn to tell them no, that what they’re doing is wrong.’...Then they tell him he’s dumb, and he says, ‘Oh… I’m dumb,’ he says that he’s dumb. And I tell him, ‘No, you’re not dumb. Don’t say that.’ Because they put that in his head, that he’s crazy…I just tell him, ‘No, that’s not okay. Don’t allow that.’]

Paulina advises Pedro to not allow people to hurt him and to not seek friendships in people who will bully him due to his disability. Her consejo of not seeking friendships from people who bully him for his disability affirms Paulina’s stance that she wants to instill in him the skills to navigate his disability. Here, Paulina’s consejo resists the ableist internalization her son is going through that he’s “dumb” and empowers him to have the agency to reject people who make fun of him for his disability as not his “friends”.

Like Paulina and Amparo, several mothers recognized that they will not always be there to protect their children, so consejos become a literacy practice they use to give their children to navigate the hardships of disability and become more independent. By doing so, consejos become a key cultural literacy practices mothers use to help children advocate for their own needs as disabled, multilingual, and multimodal individuals.

Discussion

The purpose of this study was to explore how EBLADs and their caregivers engage in literacy practices on their own terms. I investigated these literacy practices through virtual pláticas with caregivers of emergent bilinguals labeled as disabled (EBLAD) who receive speech-language services. I explored the literacy practices through a lens of translanguaging, multiliteracies, and Chicana feminism to understand how these literacy practices are informed by both the child's identity as bilingual and disabled through the perspectives of their mothers, Latina immigrant women. My findings reveal that caregivers of EBLADs reject deficit-based perspectives of bilingual disabled children to engage in a variety of literacy practices that support their children as both bilingual and disabled. Caregivers described the literacy practices they engage in with their EBLADs through a variety of ways that go beyond, but include, book reading. I found themes related to supporting identity, connection, and preparing them to navigate their futures.

The deficit-based notion that bilingualism and disability are incompatible has been demonstrated in research that focuses on multilingual children with disabilities (Cioè-Peña, 2020a; Oh et al., 2026; Peña et al., 2023). Despite negative messaging around bilingualism and disability, mothers continued to practice their home languages with EBLADs as a form of drawing on their resistant and linguistic capital (Yosso, 2005). Paralleling findings from other students of multilingual children, these mothers supported the flexible use of their children's full linguistic repertoire to participate in a variety of literacies (de los Ríos, 2024; Ehiyazaryan-White, 2025; Showstack & García-Mateus, 2022; Song, 2016). By continuing to engage in multiple literacies in their home languages and hybrid languaging practices, caregivers of EBLADs can create positive linguistic environments in which their EBLADs can continue to

develop their home languages despite their disabilities. The meaningful impacts these acts of resistance had on EBLADs and their families, such as participation in culturally and linguistically relevant games and EBLADs following their interests in learning new languages, is evidence that multilingualism does not harm EBLADS.

Similar to other studies, caregivers and EBLADs in this study engaged in a variety of translanguaging and multiple literacies in their literacy practices, such as pláticas (Cuevas-Guerra, 2025), games (Escamilla et al., 2021; Zentella, 2015), and video streaming (Kargın & Demir, 2023), to connect to their identities from their home countries and disabilities (Creese & Blackledge, 2015; Noguerón-Liu & S. Warriner, 2014; S. Yu, 2023). Identity is a crucial component to translanguaging (Makalela, 2015; Privette & Saechao, 2024; Rajendram et al., 2022), as attempts to separate language from ethnic/racial/disability identity serve to perpetuate structural inequalities (Henner & Robinson, 2023; Mena & García, 2021). Analyzing literacy and disability across multiple axes is essential to an intersectional perspective, as it reveals how these categories are mutually constitutive and how their expression at the individual level reflects broader systemic structures (Brooks, 2018). Despite deficit-oriented systemic narratives surrounding disability and bilingualism, caregivers actively resisted these framings through their language and literacy practices. Caregivers facilitated literacy experiences that allowed them to engage in conversations around what it means to experience a disability to empower their children to advocate for themselves and other disabled people. Moreover, caregivers also facilitated experiences that connected their children to their heritage countries by instilling in them a value of developing both their home language and the language primarily used in school, as maintaining this connection to their home country was important for caregivers (Lutz, 2008; Pacini-Ketchabaw et al., 2001).

Caregivers also engaged in the literacy practice of consejos (Delgado-Gaitan, 1994; Piedra, 2013) to support their children in navigating society through their disabilities. Extant research on the value of consejos has primarily focused on adults and nondisabled Latinx college students at various points in post-secondary education (Carrión & Torres, 2023; Espino, 2016; Nuñez Martinez et al., 2025; Piedra, 2013). This study adds to the literature by demonstrating how Latina immigrant mothers engage in consejos to transmit resilience to their EBLADs. Consejos served as culturally relevant literacy practice that mothers found valuable in raising their EBLADs to be resilient and independent in the face of societal-level barriers, such as communication access across modalities and bullying rooted in ableism. This study expands research using pláticas methodologies to investigate how disability plays out in the language and literacy practices these families engage in with EBLADs, a crucial gap necessary to address to serve multiply marginalized youth.

Although many of the caregivers were emerging in their own English language skills and bilingual books were challenging to find, many of them practiced linguistic flexibility, following their translanguaging corriente (García et al., 2017) to engage in book reading with their children. As it was challenging to access bilingual books, caregivers used books printed in English to mediate storytelling in their home languages, moving past socially constructed linguistic barriers to still provide their children with exposure to physical books. There are benefits of using books as literacy mediators beyond the written text (Arif & Hashim, 2008). Paulick et al. (2020) found that wordless picture books were valuable for multilingual families because they are not constrained by a single language and allowed families to draw on their own linguistic and cultural resources during shared book reading. Moody and Matthews (2022) found that when not limited to text in books, Latinx families engaged in multigenerational collaborative

storytelling, conversations about the text, and language and literacy that is not constrained to the language already written on the page. Overall, in contrast to deficit notions that Latina mothers are not engaging in enough literacy with their children (Zentella, 2015), caregivers utilized books in creative ways to engage in literacy with their children. These deficit narratives about Latinx family literacy often stem from measuring engagement using narrow, Wester, school-centric standards rather than the multiple literacies caregivers engage in (De Souza, 2016). This research extends this line of evidence by demonstrating how mothers enact flexible literacy engagement with EBLADs when bilingual books are scarce.

Implications for Further Research and Practice

Results from this study underscore the importance of considering literacy practices as defined by the language users rather than solely focusing on the Western monolingual literacy norms of the school in disabled Latinx populations. For example, typically speech-language pathologists attempt to facilitate carryover in unidirectional ways. They send home resources, activities, and exercises that caregivers can practice at home to support their children's language and literacy goals. While the expertise of speech-language pathologists is important to consider in supporting the language and literacy of the child, caregivers bring a wealth of knowledge related to the literacy practices they engage in outside of school. By examining the literacy practices EBLADs experience in the home, speech-language pathologists and other education professionals can move toward reciprocal carryover, "wherein educational professionals learn from and integrate communication practices from children's homes in sessions and formal learning spaces" (Padía, 2023, p. 718). Literacy programs that only address Western-centric literacy norms and do no account for cultural and linguistic contexts are ineffective in the long-term (Gadsden, 1994; Janes & Kermani, 2001). Literacy programs can be developed that center

culturally relevant literacy practices tailored to emergent bilinguals labeled as disabled, as their identities as both bilingual and disabled need to be addressed to tailor to their needs at the intersections of those (and other) identities.

Future research can focus on language and literacy practices from the perspectives of EBLADs, as this study focused on the topic through the perspective of mothers. For example, Lyons and Roulstone suggest using narrative inquiry with children with speech/language impairments to make sense of their experiences and construct their identities (Lyons & Roulstone, 2018). In the spirit of translanguaging and allowing children to use their entire semiotic repertoires, children labeled as disabled can share their own views of the language and literacy practices they engage in multimodally beyond traditional interviews such as drawing (McLeod et al., 2025; Merrick & Roulstone, 2011), photographs (Jurkowski & Paul-Ward, 2007; Merrick & Roulstone, 2011), and augmentative and alternative communication (Rabiee et al., 2005; Saechao et al., 2025). By gathering the perspectives of EBLADs in addition to their caregivers on what language and literacy practices are important to them, researchers, clinicians and related educational professionals can better design research, intervention, and assessment practices that honor the agency of the EBLADs.

Dissertation Summary and Conclusions

Despite deficit-based ideologies around the languaging practices of linguistically minoritized communities in the United States, these communities bring a wealth of semiotic resources that are both linguistic and non-linguistic in nature. As demonstrated in the collection of studies that make up this dissertation, these semiotic resources are used to engage in discipline-specific discourse (e.g., mathematics), practice multiple forms of literacy that go beyond the written word in their homes and engage in literacy practices that are informed by intersectional identities. A translanguaging and multiliteracies approach, as applied in this dissertation, requires situating focal language and literacy practices within the social contexts in which they occur. When allowed to, people can follow their translanguaging corriente (García et al., 2017) to navigate complex communicative terrain by engaging many parts of their semiotic repertoires. People can also use multiple literacies (Cazden et al., 1996; Cope & Kalantzis, 2000; De Souza, 2016) to read the world (Freire & Slover, 1983), which requires researchers to re-think who counts as literate and redefine how we think of literacy (Keefe & Copeland, 2011).

The collection of studies presented in this dissertation explored multilingual, multiliterate, and multimodal languaging practices across school, home, and community contexts. In study 1, I explored how a classroom of linguistically diverse fourth-grade students in a Southern California elementary school engaged with their translanguaging landscape to access their expansive semiotic repertoires to participate in mathematics discourse and navigate potential linguistic barriers (Moschkovich, 2002). Both students and teachers co-constructed a translanguaging space (Wei, 2011) through the walls of the classroom by embedding a variety of linguistic codes in different named languages, but also a variety of semiotic codes beyond languages. The translanguaging landscapes allowed emergent bilingual children still developing

their English language skills to participate in math discourse multimodally. In study 2, I systematically analyzed how "home literacy environment" (HLE) has been defined by research published through the American Speech-Language-Hearing Sciences journals for the past thirty years. Viewed from a translanguaging literacies and multiliteracies framework (Cazden et al., 1996; García & Kleifgen, 2020), the HLE has tended to focus on graphocentric, monoliterate (De Souza, 2016) notions of literacy that both invisibilize other cultural and linguistic ways of practicing literacy and penalize linguistically minoritized and low-income communities for not conforming to Western, White, middle-class notions of what it means to be literate. In study 3, I investigated what language and literacy practices emergent bilinguals labeled as disabled (EBLAD, Cioè-Peña, 2020b) and their immigrant mothers engage in that are informed by the child's identities as multilingual and disabled. Despite being advised by individuals with higher social standing to avoid using their home languages with their disabled children, mothers resisted these recommendations to continue the language and literacy practices they valued at the intersection of multilingualism and disability. Language and literacy practices served as a cultural tool to connect EBLADs and their mothers to their cultural and linguistic heritage, as well as connecting to what it means to be a disabled child and what it means to mother a disabled child (Cioè-Peña, 2021).

The findings described in this dissertation collectively underscore that languaging is multimodal, context-dependent, culturally embedded, and intersectional. Across the three studies, multimodal ways of engaging in learning experiences, whether at school or in the home, reveal strengths of linguistically minoritized communities bring to their communicative interactions. This dissertation expands work on translanguaging to include communication at the axis of multimodality and disability, as scholars have critiqued translanguaging research for

leaving out multimodal ways of communicating (Kusters et al., 2017) and disabled populations (Cioè-Peña, 2022). Applying an analytic focus to multiply marginalized populations (M. R. Beneke et al., 2022), such as multilingual children with disabilities, allowed for analytical conclusions. Research with these populations must be intersectional (Collins & Bilge, 2020) to fully account for the inequities these populations experience due to their language background and disability status.

This collective work contributes to more equitable pedagogical, clinical, and research practices by expanding how educators and scholars conceptualize language, literacy, and disability within multilingual contexts. Informed by study 1, speech-language pathologists, general education teachers, and other educational staff can be more intentional about how they can create a classroom landscape that encourages and is shaped by the translanguaging done by both teachers and students (Wei, 2011). To do so, they can reflect on how they can engage the various linguistic backgrounds of students in their classroom or on their caseload. Additionally, they can think about what some of the nonlinguistic symbols are that can be leveraged across cultures to help multilingual learners navigate potential language barriers. Informed by study 2, researchers in speech-language-hearing sciences can take more expansive frames of literacy that can include and go beyond the written word to fully capture the multiple literacies that can make up the home literacy environment of a culturally and linguistically diverse society. Finally, informed by study 3, speech-language pathologists and related educational staff can use the findings and processes detailed in the study to think about how they can facilitate reciprocal carryover (Padía, 2023) to draw from the language and literacy experiences emergent bilingual labeled as disabled experience in the home to support their language and literacy development in the school.

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