



*Journal of Bilingual Education Research & Instruction*



*Journal of Bilingual Education Research & Instruction*  
**Special Issue on Early Childhood and Dual Language Education**



Published under the authority of:



**TEXAS ASSOCIATION FOR BILINGUAL EDUCATION**  
**Affiliate of the National Association for Bilingual Education**



**TABLE OF CONTENTS**

**Texas Association for Bilingual Education**  
2023-2024 Executive Board.....i

**Editorial Advisory Board for Current Issue.....ii**  
..

**Editorial Introduction**  
Dr. Iliana Alanís, Special Issues Editor.....iv

**Culturally Sustaining Interdisciplinary Biography Project: Pedagogical Practices of a Third-Grade Teacher**  
Drs. Maria G. Leija and Rica Ramirez .....7

**Learning Stories in Practice with Young Dual Language Learners: A Snail Class Project that Affirms Children’s Linguistic and Artistic Identities**  
Dr. Isauro M. Escamilla.....20

**Dichos y Adivinanzas: Herramientas Culturales que Impulsan el Éxito Académico y el Desarrollo Cognitivo en el Aula Bilingüe**  
Laura Cardona Berrio & Dr. María Guadalupe Arreguín.....45

**“But I Don’t Speak English”: Examining the Intersection of Social Identity, Agency, and Language Investment in Early Childhood Bilingual Education**  
Dr. Gisella Martinez Negrette.....59

**Meter or Yard: Preservice Bilingual Teachers’ Strategies for Introducing Measurement Concepts to Young Students by Modifying a Classic Story**  
Drs. Song An, Daniel Tillman So Jung Kim and Josefina V. Tinajero .....80



**Texas Association for Bilingual Education  
2023-2024 Executive Board**

**President**

Dr. Xóchitl Anabel Rocha  
Texas Education Agency

**Vice President**

Dr. Liz Garza-Garcia  
Fort Worth ISD

**Higher Education Rep.**

Dr. Joy Esquierdo  
*UTRGV*

**Treasurer**

Dr. Claudia Garcia  
*UT San Antonio*

**Secretary**

Altagracia Delgado  
*Aldine ISD*

**Constitution and Parliamentarian**

Dr. Laurie Weaver  
*U of Houston Clear Lake*

**Legislative Chair**

Hugo Hernandez  
*Edgewood ISD*

**Instruc and PD Chair**

Dr. Rolando Merchan  
Pasadena ISD

**BESO Representative**

Aneth Jimenez  
*UTRGV*

**Parent Representative**

Í Galvez-Perez  
*Austin ISD*

**Bilingual ESL Rep.**

Dra. Susana Franco-Fuenmayor  
*Pearland ISD*

**Public Relations Chair**

David Nungaray  
*TNTP*

**Newsletter Editor**

Dr. Lileana Rios-Ledezma  
*UTRGV*

**Publications Chair**

Dr. Josefina V. Tinajero  
UT El Paso



**EDITORIAL ADVISORY BOARD FOR CURRENT ISSUE**

Dr. Zulmaris Diaz  
U of Texas-Rio Grande Valley

Dr. Anita Panday  
Morgan State University

Dr. Lucila Ek  
U of Texas at San Antonio

Dr. John Sutterby  
U of Texas at San Antonio

Dr. María G. Arreguín  
U of Texas at San Antonio



**JBERI EDITORIAL TEAM**

**EDITOR**

Dr. Josefina Villamil Tinajero  
The University of Texas at El Paso

**Technical Assistant**

Jerry Urquiza  
Technology Implementation Manager (TIM)  
The University of Texas at El Paso



## **Editorial Introduction**

### **Message from the Editor of the Special Issue**

Dear Colleagues,

This special issue, *The Intersection of Early Childhood and Dual Language Education*, features the work of scholars in early childhood and bilingual education who share how teachers and university faculty enact practices that address issues of equity and social justice in young emergent bilingual children's development and learning. A wealth of research substantiates the significance of dual language education in early childhood for its cognitive, linguistic, academic, and socio-cultural benefits that reverberate throughout an individual's life (NASEM, 2017). High-quality experiences and support in both languages not only sharpen cognitive abilities but also enhance linguistic proficiency, leading to improved academic performance. Moreover, it fosters cultural understanding, identity formation, and inclusive social attitudes, which are invaluable in our diverse global society (Espinosa, 2015; Genesse, 2015).

Aligned with the National Association for the Education of Young Children's (NAEYC) Advancing Equity in Early Childhood Education position statement (2019), these articles address the ethical responsibility of the early childhood bilingual profession to create a society where all children are viewed as competent learners. This requires committed educators who understand the sociocultural process of learning multiple languages within a society that does not always value children's cultural, familial, and linguistic wealth. Through their research, the authors highlight educators who address inequitable schooling for young emergent bilingual children and their families through instructional practices that nurture bilingual identities and leverage children's lived experiences. The authors also discuss culturally sustaining pedagogical practices that maintain children's cultural and linguistic heritage. Concomitantly, they honor the voices of children, their families, and the teachers who serve them.

In the lead article, (*Culturally Sustaining Interdisciplinary Biography Project: Pedagogical Practices of a Third-Grade Teacher*) Drs. Maria Leija and Rica Ramirez from the University of Texas at San Antonio examine how a third-grade bilingual Latinx teacher draws on culturally and linguistically sustaining pedagogical practices to develop students' bilingualism and biliteracy. Through this work, they reveal the need for culturally sustaining interdisciplinary thematic units where students' translanguaging practices are valued and nurtured. Leija and Ramirez also emphasize the need to draw on students' families' knowledge to support students' bilingual and biliteracy development.

Dr. Isaura M. Escamilla, from San Francisco State, uses critical race theory to showcase the role that teachers play in nurturing children's home language(s), in this case, Spanish, through critical pedagogical spaces and Learning Stories. In his article (*Learning Stories in Practice with Young Dual Language Learners: A Snail Class Project that Affirms Children's Linguistic and Artistic Identities*), Escamilla explains how teachers in a preschool dual language classroom use Learning Stories to create a complete image of the child as a learner. To honor multiple perspectives, Learning Stories include the voice of teachers as narrators, the voice and actions of children as active participants in the learning process, and the voices of families who offer their perspective, either in writing or orally, as the most important teachers in their children's lives.

Likewise, doctoral student Laura Cardona-Berrio and Dr. María Guadalupe Arreguín from the University of Texas at San Antonio suggest that cultural tools that connect to families' knowledge and wisdom, such as sayings and riddles (*dichos y adivinanzas*), can enhance daily instruction. In their article (*Dichos y Adivinanzas: Herramientas Culturales que Impulsan el Éxito Académico y el Desarrollo Cognitivo en el Aula Bilingüe*), they discuss how exposure to specialized vocabulary, reading between the lines, drawing inferences, and memorization represent skills directly tied to a systematic use of sayings and riddles. The authors highlight the cognitive and academic benefits of adopting culturally sustaining pedagogies, and just as importantly, they provide practical ideas for implementation in a dual language classroom.

Dr. Giselle Martinez-Negrete, from the University of Illinois Urbana-Champaign, in her article (*"But I don't want to speak English": Examining the Intersection of Social Identity, Agency, and Language Investment in Early Childhood Bilingual Education*), examines how language is utilized within a kindergarten dual language space to construct perceptions of individuals and to resist and enact specific identities through social processes and linguistic interactions. Using an ethnographic case study, Martinez-Negrete illustrates the complex processes one young emergent bilingual engages in when developing her bilingualism and the significance of research in unearthing the interwoven nature of language development and identity.

Lastly, Drs. Song An, Daniel Tillman, So Jung Kim, and Josefina Villamil Tinajero explore bilingual preservice early childhood teachers' strategies for integrating mathematical topics into literacy activities in their article titled, *Meter or Yard: Preservice Bilingual Teachers' Strategies for Introducing Measurement Concepts to Young Students by Modifying a Classic Story*. Their study provides empirical evidence of preservice teachers' capacity for developing original stories to serve as mathematics teaching resources, as well as the potential for implementing mathematics literacy teaching with early childhood students.

Special thanks are due to Dr. Josefina (Josie) Villamil Tinajero as Editor and her Editorial Assistant, Jerry Urquiza. In addition, this issue would not be possible without the members of the Editorial Advisory Board and our manuscript reviewers.

Sincerely,



Dr. Iliana Alanís  
The University of Texas San Antonio

## References

- Espinosa, L. M. (2015). Challenges and benefits of early bilingualism in the United States' context. *Global Education Review*, 2(1), 14-31.  
<https://files.eric.ed.gov/fulltext/EJ1055271.pdf>
- Genesse, F. (2015). Myths about early childhood bilingualism. *Canadian Psychology/Psychologie Canadienne*, 56(1), 6. <https://doi.org/10.1037/a0038599>
- NASEM (National Academies of Sciences, Engineering, and Medicine. (2017). Promoting the educational success of children and youth learning English: Promising futures. Washington, DC: National Academies Press. <https://doi: 10.17226/24677>.
- National Association for the Education of Young Children (2019). Advancing Equity in Early Childhood Education Position Statement. Washington, DC: NAEYC.  
<https://www.naeyc.org/resources/position-statements/equity>





**Culturally Sustaining Interdisciplinary Biography Project:**

**Pedagogical Practices of a Third-Grade Teacher**

**Dr. María G. Leija & Dr. Rica Ramírez  
The University of Texas at San Antonio**

# **Culturally Sustaining Interdisciplinary Biography Project: Pedagogical Practices of a Third-Grade Teacher**

## **Abstract**

Early childhood educators who use inclusive teaching approaches can recognize and support each child's unique funds of identity, which demonstrates a teacher's respect for diversity, inclusivity, and equity. Teachers are encouraged to be intentional in how they implement strategies that increase opportunities to develop language and literacy among young bilingual children. This study examines how a third-grade bilingual Latinx teacher draws on culturally and linguistically sustaining pedagogical practices during a biography unit. Data sources were analyzed using the multi-step method approach. Three themes emerged: (1) developing culturally sustaining interdisciplinary thematic units, (2) fostering translanguaging practices, and (3) reimagining parental involvement. Key findings were how the teacher integrated students' and families' knowledge to enhance the curriculum. In addition, parental involvement was decentered from traditional notions of parental involvement.

Keywords: culturally sustaining pedagogical practices, culturally sustaining interdisciplinary thematic units, translanguaging, parental involvement, emerging bilinguals

## **Culturally Sustaining Interdisciplinary Biography Project: Pedagogical Practices of a Third-Grade Teacher**

All young children are entitled to equitable learning opportunities that allow them to reach their full potential. Early childhood educators who use inclusive teaching approaches can recognize and support each child's unique funds of identity, which demonstrates teachers' respect for diversity, inclusivity, and equity (Esteban-Guitart & Moll, 2014; NAEYC, 2019). Research shows that learning two or more languages benefits children's cognitive, social, and emotional development (Espinosa, 2015; Genesse, 2015). Because of the many benefits of bilingualism, teachers are encouraged to be intentional in the ways in which they implement strategies that increase opportunities to develop language and literacy among young bilingual children (Castro & Franco, 2019). The purpose of the study was to examine how a third-grade bilingual Latinx (a gender-neutral term for Latinas and Latinos) teacher drew on culturally and linguistically sustaining pedagogical practices in a Spanish/English dual language program.

### **Literature Review**

Bilingualism is often defined as having mastered two separate and distinct languages and is measured against the languaging practices of monolinguals (Gort, 2015). There has been a shift of position where researchers and educators now view bilingualism as fluid, dynamic, and complex, where their language practices are valued and acknowledged (García, 2009). A dynamic conceptualization of bilingualism, referred to as translanguaging, views bilinguals as able to move easily, strategically, and competently using linguistic features from multiple languages. Translanguaging does not conform to societal constructions of separate and distinct languages, but rather, students produce new and complex linguistic practices from their linguistic repertoire (García & Wei, 2014). Supporting bilingualism promotes children's positive identity and racial socialization by allowing them to maintain connections with their culture and, thereby, their family members (Muller et al., 2020; NASEM, 2023).

Children and families who are from linguistically and culturally diverse groups embrace ways of interacting and being that may look different than white middle-class norms (Rodriguez, 2017). In a ground-breaking study, Heath (1983) observed literacy activities among the Black community in Trackton, which consisted of more verbal interactions, such as playing language games and open-ended questions. Literacy activities from the white middle-class communities reflected the dominant literacy practices, such as engaging children with numbers, colors, and naming objects. Consistently, research indicates that pedagogical classroom practices are often influenced by notions of "whiteness," which suggests that white, middle-class beliefs are the norm while dismissing the cultural knowledge and lived experiences of people of color (Milner, 2009; Paris, 2012).

Although Heath's study was over forty years ago, educators continue to focus on and value these mainstream types of activities. Effective teachers, however, draw upon children's funds of knowledge--- their diverse cultures and languages--- and view them as resources that can be leveraged for children's learning and development (Wynter-Hoyte et al., 2019). Much like that of a teacher in Texas, where she uses the local vernacular, TexMex, which enables her and her students to create spaces that allows for translanguaging in the classroom not only as a way of making sense of content and learning language, but also to validate identities (Osorio, 2020).

Moll et al. (1992) defined the concept of funds of knowledge as “historically accumulated and culturally developed bodies of knowledge and skills essential for household or individual functioning and well-being” (p.133). When educators disregard students’ lived experiences and cultures, they create a mismatch between the school and the home and negatively impact academic achievement (Delpit, 2006; Moll et al., 1992). Therefore, it is critical for teachers to value and build upon students’ cultural and linguistic resources (Wynter-Hoyte et al., 2019). Research reveals how practitioners of diverse communities have implemented culturally sustaining pedagogies, such as translanguaging instruction (Zapata & Laman, 2016), learning from family members’ funds of knowledge (Souto-Manning & Martell, 2016), and building on student’s linguistic and cultural resources (Keehne et al., 2018; Nash et al., 2018; Osorio, 2020; Sayer, 2012).

Zapata and Laman (2016), for example, discuss how a third-grade teacher developed a translanguaging orientation by featuring the community’s language practices in her classroom. This teacher was able to value classroom communities as linguistic resources and models for her students during literacy instruction by having community members tell stories from their lived experience. This activity taught students how to write in languages other than English and talk about their linguistic identities (Zapata & Laman, 2016). A translanguaging approach to literacy asks teachers to work with and learn from community members actively, in addition to engaging and inquiring into students’ language. This approach deepens their understanding of the variety of ways to value, leverage, and teach using students’ everyday language practices.

Similarly, Nash et al. (2018) found that her participant, Mrs. Dacosta, a second-grade teacher, implemented a culturally sustaining practice in her classroom, *la historia de mi nombre*/the story of my name. Mrs. Dacosta had many students who were embarrassed that their two last names were long and were “non-Western European names.” She wanted her students to feel that their names were important and valued. *La historia de mi nombre*/the story of my name was purposefully sequenced, interconnected, and an iterative practice that built and sustained students’ local and cultural knowledge to support the development of language and literacy. Culturally sustaining practices can validate and honor students’ identities and heritage languages through translanguaging and using authentic literature of students’ cultures, voices, and languages (Paris & Alim, 2017).

### **Theoretical Framework**

Our work draws extensively on culturally relevant pedagogy (CRP) (Ladson-Billings, 1995), as well as culturally sustaining pedagogy (CSP) (Alim & Paris, 2017). CRP posits that by using cultural referents to impart knowledge and skills, we empower students academically, socially, emotionally, and politically (Ladson-Billings, 1995). Culturally relevant teachers recognize how children express their own cultural knowledge in the way they use their language(s), the way in which they play and socialize with others, and in the stories they tell (Salinas-González et al., 2018). This stance is particularly important when studying children from multilingual and low-income families where their frame of reference and their prior experiences may not be valued.

Alim and Paris (2017) extend this idea by calling for researchers to draw attention to the ways in which teachers “support and sustain what [they] know are remarkable ways with language, literacy, and cultural practice, while at the same time opening up spaces for students themselves to critique the ways that they might be-intentionally or not-reproducing discourses that marginalize members of [their] communities” (p. 11). CSP aims to decentralize whiteness in the classroom by reframing issues related to

access and equity by embracing the richness of our society, including all languages, literacies, and cultural ways of knowing that our students and community embody, particularly those marginalized by the dominant culture (Paris, 2012). Cultural ways of knowing and minority languages are often racialized and viewed through a deficit lens (Alim et al., 2016). CSP views funds of knowledge as additive rather than subtractive (Alim & Paris 2017). We view families and their communities as valuable educational resources and take up Alim and Paris' call to examine how a Latinx third-grade teacher supported and sustained Latinx students' during the language arts block.

## **Methods**

The current qualitative case study examines the pedagogical practices of a third-grade 50/50 Spanish/English dual language Latinx teacher. The study explores how the teacher, Mr. Mendoza (pseudonym), drew on culturally and linguistically sustaining pedagogical practices during an interdisciplinary biography unit in February of the academic school year. The study draws from a larger study that took place in Central Texas at a Title 1 school. Mr. Mendoza (also known as Mr. M) is of Mexican descent. He grew up in Mexico and, at the time of the study, had taught for seven years. The 50/50 dual language model required that he provide half of the instruction time in Spanish and the remaining time in English. The class was composed of 17 students of Mexican and Mexican-American descent, one Mexican-Nicaraguan, and one Anglo-Honduran.

### **Data Sources and Data Analysis**

The first author collected data sources such as ethnographic field notes, transcriptions of audio and video recordings, and collection of teacher, student, and parent-produced artifacts, two semi-structured interviews, and daily debriefings. The semi-structured interviews occurred prior to collecting data in the classroom and after the Biography Project. Both authors analyzed the data sources using the multi-step method approach (Miles et al., 2014) for qualitative data analysis. Inductive and deductive data analysis was done using the theoretical framework of CSP. We went through three cycles. In the first cycle, we chunked the data to identify codes. Some codes that emerged during data analysis were fluid language shifts, writing opportunities, curriculum decision-making, integration of parental knowledge, parent participation, inquiry assignments, decentering of whiteness, linguistic repertoire, etc. During the second cycle, we analyzed the codes to identify patterns such as language moves, curriculum design, parental involvement, critical thinking, etc. The third, and last cycle, required the identification of emerging themes. Data was then triangulated to support the identification of the salient themes.

## **Findings**

Through data analysis and triangulation, three themes emerged regarding the culturally and linguistically sustaining pedagogical practices that a third-grade teacher utilized during the biography unit. These themes include (1) developing culturally sustaining interdisciplinary thematic units, (2) fostering translanguaging practices, and (3) reimagining parental involvement. In the following sections, we discuss each theme in more detail.

### **Theme 1- Culturally Sustaining Interdisciplinary Thematic Units**

Scholars have noted the importance of centering students' knowledge, culture, and experiences when developing a culturally sustaining curriculum (Leija, 2020; Leija & Fránquiz, 2021; Leija, Guerra, et al., 2023; Paris & Alim, 2017). Theme one examines how Mr. M drew from his emerging bilingual students' intersecting bilingual, bicultural, and biliterate identities through interdisciplinary thematic units.

These units were used throughout the year; theme topics included: biculturalism, immigration, Día de los Muertos, etc. The units had to meet four conditions: 1) students' languages, cultures, and literacies were integrated into the unit; 2) language arts and social studies content areas were infused throughout the unit; 3) through inquiry assignments, students' parents' and/or family members' knowledge and experiences enhanced the curriculum; and 4) students could share their work with their family during the *Reunión Literaria* (Literary Reunion), a culminating event.

Throughout the academic year, Mr. M made every effort to ensure that his Latinx students were provided with a culturally sustaining curriculum. During an interview, Mr. M discussed the importance of making curriculum choices with explicit connections to students' experiences to provide them with opportunities to engage with a meaningful curriculum.

*Si no lo basamos (el currículo) en las experiencias de ellos, la educación es algo ajeno a ellos.* [Translation: If we do not base it (curriculum) on their experiences, education is something foreign to them.] that doesn't belong to me, to my culture. ... I think it is hard for them to make connections... when something is not part of their daily lives, not part of what they celebrate or do...

As Mr. M translanguage in Spanish and English, he noted the importance of ensuring that his instruction was intertwined with his students' lived experiences. For Mr. M, the intersection of the curriculum and students' lived experiences created a space where students could become academically successful as they continued to develop their cultural, literate, and linguistic identities.

#### ***A Culturally Sustaining Biography Project***

In Texas, the Texas Essential Knowledge and Skills (TEKS), outline what students are to learn in each course or grade. The State Board of Education adopts the standards after extensive input from educators and other stakeholders. All teachers need to ensure that the TEKS are being met. Mr. M incorporated the TEKS but was intentional in using culturally sustaining projects and activities. Mr. M used the social studies content (§113.14) to engage students in a variety of rich materials such as biographies, songs, and documents that showcased important community members. In this way, Mr. M made a point to connect students to their local Latinx community and culture. For instance, Mr. M provided multiple opportunities for students to develop English language arts and reading, specifically through listening, speaking, discussion, thinking, oral language, viewing, and producing a written product. Students met the English language arts and reading TEKS (§110.5) as they listened, asked clarifying questions, and actively discussed the issues they were reading.

In addition, third-grade students are expected to expand their knowledge of history by studying people who made a difference in various communities and who exemplify issues of good citizenship, including issues surrounding justice, equality, and respect. To meet this standard, Mr. M had his third graders learn about important historical figures from the Latinx community through a Biography Project. He was strategic in his selection of biographies. Students learned about Celia Cruz (a popular Cuban singer from the 20th century), Tito Puente (an American composer and musician, known as the "King of Mambo"), and Gabriel García Márquez (a famous Colombian novelist). Part of the project included asking students to make text-to-self connections between individuals such as Celia Cruz and Tito Puente. Through these types of activities, Mr. M decentered whiteness and provided opportunities for students to make connections to prominent figures of Latinx descent and their cultural community. For example, some of the students noted that they had heard Celia Cruz's songs at home.

In Table 1 (see below), we outline the two-week Culturally Sustaining Interdisciplinary Biography Project. A key component of the Project was identifying culturally relevant literature for interactive read alouds. In the first column, we provide the titles of the culturally authentic biographies Mr. M selected for interactive read alouds but also as models for what students would be expected to write. When selecting picture books for any of his units, he looked for texts written by Latinx authors and about Latinx people. Culturally authentic texts are books that reflect readers' cultural diversities and are authored or illustrated by a person of the culture(s) being represented (Teale & Gambrell, 2007). He also required that the children's literature have a well-written storyline, and illustrations that supported and/or enhanced the text (DeJulio et al., 2022; Leija, Martinez, et al., 2023), and provided students with opportunities to expand their vocabulary.

For the Biography Project, he selected the three picture books noted in Table 1. In this case, each of the biographies was written by Monica Brown, and each discussed an influential Latinx figure: Celia Cruz, Gabriel García Márquez, and Tito Puente. The children's literature Mr. M selected centered on important Latinx figures that are not traditionally selected. Unlike traditional white-centric curriculum, this unit did not include historical figures such as George Washington, Abraham Lincoln, Benjamin Franklin, Martin Luther King, etc. The second column provides details about the ways in which the teacher integrated student writing into the project. For the first book, students were asked to respond to writing prompts that stemmed from children's literature. For the other two books, students were asked to engage in the writing process (draft biographies, edit, revise, and publish). The third column provides details about the biography students were instructed to create. As noted, students needed to identify an important figure in their own family to interview and write a biography about. The last section, the last row, provides an agenda of the events that took place at the *Reunión Literaria*, the culminating event.

Throughout the Culturally Sustaining Biography Project, students eagerly participated during the interactive read alouds. During the writing portion of the language arts block, they worked on their biographies and Mr. M walked around and checked in with students to get an update on their progress.

## **Theme 2- Fostering Translanguaging**

One of the motivating premises of culturally sustaining pedagogy is that *culture* needs to be *sustained* (Paris, 2012); culture is primarily produced through language and provides a deep sense of identity and belonging. Because of the role language plays in sustaining culture and identity, pedagogical practices must support students' languaging practices within the classroom. Mr. M fostered interactional spaces where his students were encouraged to draw on their entire linguistic repertoire to communicate, make meaning, and develop literacy skills (García & Wei, 2014).

As in any interactive read aloud, Mr. M frequently asked questions during the literacy event. During the Spanish interactive read aloud of *My Name is Gabito/Me llamo Gabito: The Life of Gabriel García Márquez/La vida de Gabriel García Márquez* (Brown, 2007), Mr. M paused to discuss the following phrase: "*Entre más palabras aprendía, más cuentos contaba.*" ("The more words he learned, the more stories he would tell."). The following excerpt illustrates translanguaging by the teacher and students in Spanish and English as they explain their interpretation of the phrase using their entire linguistic repertoire.

**Table 1: Culturally Sustaining Interdisciplinary Biography Project**

<i>Biography Project</i>		
<b>Book</b>	<b>Writing Opportunities</b>	<b>Family Inquiry Assignment</b>
<i>My Name is Celia/Me llamo Celia: The Life of Celia Cruz/La vida de Celia Cruz</i> (Brown, 2004)	¿Qué piensas de Celia Cruz? (What do you think about Celia Cruz) ¿Es importante? (Is she important?) ¿Es famosa? (Is she famous?) ¿Por qué? (Why?)	Interview a family member and write a biography about them.
<i>My Name is Gabito/Me llamo Gabito: The Life of Gabriel García Márquez/La vida de Gabriel García Márquez</i> (Brown, 2007)	No reading responses questions, writing time was allotted for students to work on their biographies.	
<i>Tito Puente: Mambo king/ Rey del mambo</i> (Brown, 2013)	No reading responses questions, writing time was allotted for students to work on their biographies.	
<p><b>Reunión Literaria (Literary Reunion)</b></p> <ul style="list-style-type: none"> <li>● Students welcome their families</li> <li>● Students share their work</li> <li>● Parents respond in writing to the following questions <ul style="list-style-type: none"> <li>○ ¿Cuál fue el libro que más les gustó? (Which book did you like best?)</li> <li>○ ¿Han visto alguna diferencia en su hijo/a? (Have you seen a difference in your child?)</li> <li>○ ¿Qué piensan sobre el involucramiento de los padres? (What do you think about parental involvement?)</li> </ul> </li> <li>● Parents share their responses to the questions</li> <li>● Students thank their families for participating in the <i>Reunión Literaria</i></li> <li>● Potluck</li> </ul>		

*Note.* Overview of the Culturally Sustaining Biography Project.



***Spanish Book Discussion Excerpt: Gabito Interactive Read Aloud***

- 356 Jessica: *Significa que cuando él aprende más palabras, él sabe más historias* (It means that when he learns more words, he knows more stories)
- 357 *porque puede juntar unas palabras... y hacer una historia* (because he can join the words and create stories)
- 358 T: *Entonces es muy importante el vocabulario, ¿verdad?* (So, vocabulary is very important, right?) (Repeats Jessica's response).
- 359 Alejandra: ... *Él hacía historias con las palabras que le decía su abuelo.* (He would create stories with the words that his grandpa would tell him.)
- 360 T: *Entonces, de las palabras de su abuelo, él iba haciendo historias.* (So, from his grandpa's words, he would create stories.)
- 361 Sandra: ... *siempre aprendía muchas palabras.* (... he would always learn many
- 362 words.)... he was using his imagination.
- 363 T: That is why it is important to have the vocabulary, right?...
- 364 And not only the vocabulary, but to use your imagination.
- 365 Rolando: ... the more he read, the more interesting the stories would get.
- 366 T: Okay, so, it is important to read or what?...
- 367 Rolando: (interrupts) It's important!
- 368 T: Why?...
- 369 Rolando: Because you know more and can get a better job and a bunch of stuff.
- 370 T: *Este, Rolando, ya lo está relacionando.* (...he is already making a connection.)
- 371 *El otro día decíamos, las personas que más leen* (The other day, we discussed, the people who read more)
- 372 *son las que tienen acceso a los mejores trabajos. ¿Verdad?* (they are the ones that have access to better jobs. Right?)

Through this transcript, we see how Mr. M and his students did not adhere to a strict separation of languages. Following Mr. M's Spanish language choice for the selected phrase, Jessica, a student, began the dialogic segment by sharing her interpretation of the phrase in lines 356-357 (see transcript above with line numbers). She noted the important role vocabulary acquisition played in Gabito's ability to create "historias" (stories). In response to Jessica, Mr. M adhered to Spanish when he stated the importance of vocabulary and asked students whether that was the case (line 358). In line 359, in Spanish, Alejandra (a student) added the important role Gabito's grandfather played in his language development. Mr. M followed suit and used Spanish to rephrase Alejandra's interpretation to the class. In line 361, Sandra, a student, followed the previous speakers' language choice of Spanish and, in the next utterance, translanguaged and noted the use of Gabito's "imagination." Although the target language of instruction was Spanish, Mr. M followed Sandra's language choice, and in lines 363-364, he noted the importance of

vocabulary and the “use of your imagination.” Rolando, a student, followed Mr. M’s language choice (line 365) and noted the importance of reading and its influence on a writer’s work. In lines 366-369, both students and teacher continue to use English as they engage in meaning-making. In lines 370-372, Mr. M translanguages back to Spanish and notes the importance of Rolando’s English comment (line 369).

In the short segment, we can see the language environment that Mr. M has fostered, one that has no language boundaries. In addition, Mr. M is a model for how students can draw from their linguistic repertoire while actively participating in making sense of the text and their peers’ inferences of the text. In this learning environment, the teacher and students can translanguague fluidly as they see fit without fear of being reprimanded for not adhering to the targeted language of instruction or a separate language ideology. In this way, communication and learning is not hindered and children’s identities as bilingual speakers are reinforced.

### **Theme 3: Reimagining Parental Involvement**

Traditional expectations of parental involvement include volunteering in the classroom, contacting the teacher if they have any questions, and completing tasks that teachers assign, which reflect the norms of white, middle-class families (Antony-Newman, 2019). These expectations put the onus on the parents to adapt their home life to match that of the school (Szech, 2021). Unfortunately, teachers tend to view families from diverse backgrounds from a deficit perspective (Valencia & Black, 2002) and label them as “uninvolved” (Szech, 2021). Educators who engage in developmentally appropriate practices form and maintain relationships with families and their communities (NAEYC, 2020). Mr. M, however, had a different notion of parental involvement; he did not view parental involvement as a one-sided approach. Instead, he worked to develop and maintain strong relationships with families and the community. Mr. M communicated frequently with families, which moved beyond typical interactions (i.e., communicating during pick up and drop off), but were bidirectional where each side worked together as members of a learning community.

To create culturally sustaining curricula, Mr. M created several opportunities to involve families in children’s learning. In the remainder of this section, we discuss two ways in which he involved families in supporting students’ learning. First, students were invited to author culturally affirming biography identity texts. In creating the biographies, students reflected some of the members within their community. Second, during the *Reunión Literaria*, Mr. M invited families to participate and celebrate the fruits of the labor of the students.

A significant activity in the Biography Unit was the development of family biographies. Mr. M asked students to conduct interviews with their parents or grandparents using the biography genre. In doing so, not only were students active participants, but so were their family members, as they became a source of information for the biography activity. These types of activities give children and their families a voice to be heard via authentic writing tasks and language practices, which sends a powerful message that “your voice is important, your culture is important, and your experiences are significant to your learning” (Cataldo & Alanís, 2021, p. 50). This academic assignment facilitated the representation of students and their families, which enhanced the classroom experience and led to increased levels of familial engagement. This assignment also transformed the relationships between teacher, students, and families because Mr. M positioned the parents and grandparents as having valuable knowledge that could be used to extend the boundaries of learning from school to home.

To facilitate the skill in developing a biography, Mr. M cautioned students to pay attention to the biographies because they, too, would be required to write a biography. Throughout the unit, students were guided in noting the text structure of the biographies as Mr. M read culturally authentic literature (such as, *Me llamo Gabito*). They were instructed to draft interview questions to ask their interviewee (parent or

grandparent) and create their biography. The inquiry about a family member set a context for students to connect with the texts and each other. In this way, a space was provided for collecting and sharing stories that would be deepened across the project and allow students to learn about their family’s rich cultural and linguistic history. Mr. M’s purposeful planning of the culturally sustaining interdisciplinary unit and sequence of activities honored students’ culture, language, heritage, and identity, all while meeting the state’s standard for English Language Arts and Reading (§110.5.13).

**Using the Genre of Biography to Create Culturally Affirming Identity Texts**

As noted previously, Mr. M intentionally integrated social studies and language arts content areas. In the third-grade, students are expected to compose multiple genres of texts, such as “informational texts,” as they engage in the writing process (TEA, 2022). For this biography project, students were required to take notes (of components of a biography), develop interview questions (based on the notes of questions they would ask their interviewee), interview their interviewee, and write a draft based on that interaction (see Figure 1), revise and edit the draft, and publish the final written work (see Figure 2). All significant writing skills.

One of the activities was the creation of a culturally affirming identity text. Cummins defines identity texts as artifacts (verbal, written, multimodal, performed, etc.) that reflect students’ identities in a positive light (Cummins & Early, 2011). In this case, we see Adriana and her peers creating culturally affirming identity texts of some of their community members as they engage in the writing process.

In Figure 1, Alli, a student, wrote a draft of her mother’s biography.

**Figure 1**

*Biography Draft: La biografía de mi mamá*

	<p style="text-align: center;"><b>My Mom’s Biography</b></p> <p>My mother’s name is xxxxxx. She was born on October 15, 1968, and she was born in Durango, Mexico. Her childhood was very happy with her mother and three siblings. My mother liked going to school but because of economic reasons, she was unable to complete her studies. Her favorite thing was climbing trees and helping her mom pick pomegranates. The youth of my mother was having many friends and she began working to help her mom and to buy clothes and shoes. One day when my mom went to a dance, she met my dad and she became his girlfriend. As adults, they got married and my mom had my brother, then my sister, and my other sister and then me.</p>
--	---

In  
of  
fo

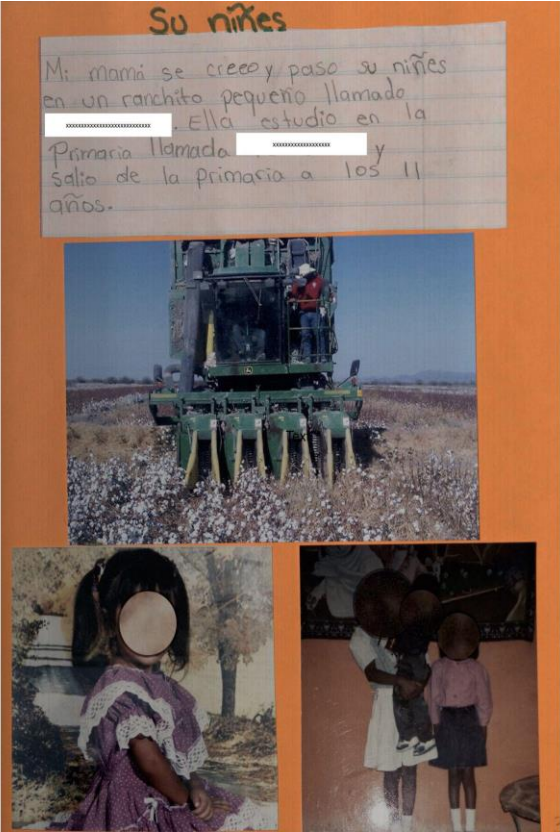
Adriana produced the published work. Figure 2 highlights a portion of her biography discussing her mother's childhood.

In Figure 2, Adriana expanded her draft with more details about her mother's childhood. In her published work, she uses key details to inform her readers about where her mother grew up, where she went to school, and how old she was when she completed elementary school. She supports her informational text with the following features: a bolded title for each section of the biography and three supporting photographs. The use of Latinx children's literature to support the creation of the biographies enhanced students' learning of the components of a biography. Having students select a family member as the participant in the text created a culturally sustaining literacy practice. One rooted in students' families that honored and validated their lived experiences.

As noted in Theme 2, Mr. M created a supportive language environment in which students could translanguage. Students were allowed to write in Spanish and English. In this case, Adriana is writing in Spanish. Using a pedagogy that values the students' cultures and backgrounds to write in their home language has been found to be useful, especially when

**Figure 2**

*Published Biography: Su niñez*



**Her Childhood**  
My mother grew up in a little ranch called xxxxxx. She studied at xxxxxx elementary school and she finished her primary grades at the age of 11.

writing about culture-bound topics (Lay, 1982; Cummins, 2006; Velasco & García, 2014). These culture-bound topics are stored in students' memory in their home language, and therefore, when their writing is carried out in the language of the memory, their texts tend to be richer and more detailed. Here, we see

how Adriana can use her linguistic resources. These translanguaging pedagogies facilitate learning for young bilingual students by embracing the complexity and richness of their full linguistic repertoire, which provides for deeper understanding and engagement in producing new knowledge (Cenoz & Gorter, 2022; Vogel & García, 2017).

### ***Reunión Literaria***

The culminating event for the Biography Project was a *Reunión Literaria*, where students debuted their published biographies. Mr. M valued families' funds of knowledge and celebrated them during the *Reunión Literaria*. The literacy event took place after school on a Thursday evening. All students' family members were invited to attend the literacy event. During the event, students took turns reading their biographies aloud to all the attendees. The student and the interviewee stood in front of the classroom as peers, parents, siblings, grandparents, aunts, and uncles listened attentively to the read aloud of their authored biography.

One of Mr. M's ongoing goals was to improve how parents were involved in his class. He continuously sought feedback from families to gauge how he was doing and reflect on how he could improve. The *Reunión Literaria* provided a space to inquire about their perceptions of parental involvement. During the literacy event, he posed the following questions to all participating parents:

“¿Han visto alguna diferencia en su hijo/a? (Have you seen a difference in your child?) and ¿Qué piensan sobre el involucramiento de los padres? (What do you think about parental involvement?)” Several parents responded favorably to both questions. For example, Señora Gonzales stated the following:

*A mí en lo personal desde que vi que entro a prekínder y ahora hasta tercer año que ha estado con el maestro Mr. Mendoza nunca había habido este involucramiento de los padres con los hijos y el maestro. Y a mí me parece una excelente idea que esto siga adelante... hemos aprendido a tener una conexión con nuestros hijos... bueno yo al menos me he sentido identificada con ellos y ellos aprendido sobre ellos, porque son unos libros creativos que hablan de lo que está pasando en la vida... y espero que esto siga adelante Mr. Mendoza, que lleve estos proyectos y que nosotros sigamos apoyando a nuestros hijos, pero en cosas creativas impulsándolos hacia adelante siempre.*

(For me, since my child started pre-k and now, third-grade, that she has been with Mr. Mendoza. There has never been this type of involvement of the parents with their children and the teacher. I think it is an excellent idea that this continues... we have learned to have a connection with our children... well, at least I have felt identified with them and they have learned about themselves, because they are creative books that discuss what is happening in life and I hope that Mr. Mendoza will continue with these projects and that we continue to support our children, but in creative ways always pushing forward).

Señora Gonzales noted that the type of parental involvement that Mr. M infused into her child's third-grade experience had been non-existent in her previous years of schooling. Parents' *testimonios* at the event produced counter-narratives (Solórzano & Delgado Bernal, 2001) to the dominant deficit narrative about parental involvement. Parents voiced their appreciation for the ways in which Mr. M had reimagined parental involvement and witnessed the fruits of his labor. Señora Gonzalez noted the academic and social benefits this type of parental involvement had offered her and her child: an opportunity to connect and identify with her child and for her child to learn from others. In reimagining parental involvement, Mr. M created a rich learning environment that went beyond the classroom walls and extended into students' homes. Together, Mr. M and the families supported the children's academic learning.

The event concluded with a potluck. Before the event, Mr. M invited all his families to bring one dish to share with the classroom community. During the *Reunión Literaria*, each of the parents came with a dish to share with the community of learners. Families brought tamales, enchiladas, aguas frescas, colorful gelatin, and many more items to share with the classroom community. Historically, potlucks have proven to be a useful strategy for building community among group members and easily and organically sparking conversations and connections (Brown & Freiwald, 2020). This was certainly observed as Mr. M and others complemented each other's cooking and shared secret tips for recipes. The literacy event was an opportunity to build community, celebrate students' academic efforts and honor their interviewees.

## Discussion

The current study sought to identify the culturally and linguistically sustaining pedagogical practices a third-grade teacher used to sustain students' learning during a culturally sustaining interdisciplinary thematic unit. Three significant themes were highlighted in the study. First, Mr. M developed culturally sustaining interdisciplinary thematic units using children's lived experiences in the form of biographies. Communication, practices, and learning that occur in the home and community can be viewed as cultural knowledge (Bernal, 2002). Even though these practices may not reflect the dominant culture we tend to see in white-middle-class homes, they constitute a wealth of valuable knowledge that teachers can use to build upon and promote literacy skills. The biography project challenged dominant notions of what Mr. M was expected to draw on to support students' learning (Bernal, 2002). The unit decentered whiteness as it created opportunities for students to make connections between their and their interviewees' lived experiences with the culturally authentic texts they were reading. Providing young bilinguals with a relevant curriculum supports them academically and beyond school (Fránquiz et al., 2015).

Second, Mr. M used translanguaging pedagogies to support the linguistic practices of his students. Translanguaging is the intentional use of two or more languages in a communicative context, which supports students' identities by acknowledging what they bring to the classroom. It affirms the value and acceptance of the home language (Bhasin et al., 2023). These interactional spaces where students can use their two languages support the development of bilingualism and biliteracy (Gort, 2006). Mr. M's translanguaging practices served as a model for how students can use their linguistic repertoire while actively participating in making sense of their learning. This finding echoes those of previous studies, where a second-grade teacher keeps her lesson almost entirely in Spanish; however, she encourages the students to use all their linguistic resources. The teacher herself frequently uses English or colloquial terms from the local vernacular, TexMex, to help students understand (Sayer, 2012). In addition, a first-grade teacher uses authentic texts and translanguaging practices to support her bilingual children to make meaning while using all their linguistic resources (Osorio, 2020). In this way, teachers and students can translanguage as needed without fear of being admonished for not adhering to the targeted language of instruction. The use of the two languages is seen as instruments that can be used to maximize and facilitate learning, in this case, enhancing comprehension (García & Kleyn, 2016; Leung & Valdés, 2019). Furthermore, Mr. M was counteracting the pervasive monoglossic bias often seen in curriculum, instructional practices, and ideologies of education in the US.

The third theme in the current study was reimagining parental involvement. Traditional notions of parental involvement describe families "involved" as attending parent-teacher conferences, volunteering, or whose children turn in homework assignments. This traditional description reflects the norms of white

middle-class culture (Antony- Newman, 2019). A true reciprocal partnership must provide a space for families to give input, engage in discourse, and build from family expertise (Souto-Manning, 2010). A culturally responsive approach to familial involvement must begin with a shift in the mindset of educators. Using the funds of knowledge from families broadens the ideas of parental involvement and what is valued in the classroom (González et al., 2005). Family's lived experiences are valued and legitimized when teachers view them as having a wealth of knowledge to share and build upon, regardless of whether their experiences are reflected in the traditional curriculum (González et al., 2005). In recognizing that students come to the classroom with funds of knowledge that can be used in learning, reimagining parental involvement necessitates a co-learning space where all parties learn from each other and all language practices are valued (Li Wei, 2013; Vogel & García, 2017). Furthermore, by acting to disrupt these normative outlooks of parental involvement through a culturally responsive lens, teachers can begin to move toward a more inclusive environment where families from diverse communities feel welcomed and appreciated (Szech, 2021).

### **Conclusion**

Through these culturally sustaining pedagogical practices, Mr. M created opportunities where students and their families could see themselves and their lived experiences in the curriculum. The classroom became a safe space where funds of knowledge and experiential learning were co-created between the teacher, parents, and the students, which provides a model of what culturally sustaining pedagogy looks like in a dual language classroom. Educators and administrators should seek out training centered on culturally sustaining practices and cultural competence to enrich their teaching (Ramírez et al., 2018; Ramírez & López, 2023). With the ever-growing linguistic diversity in US classrooms, it is crucial to acknowledge students' home languages as resources and, more importantly, equip educators to use them.

## References

- Alim, H. S., Rickford, J., & Ball, A. (Eds.). (2016). *Raciolinguistics: How language shapes our ideas of race*. New York, NY: Oxford University Press.
- Alim, H. S., & Paris, D. (2017). What is culturally sustaining pedagogy and why does it matter. In *culturally sustaining pedagogies: Teaching and learning for justice in a changing world* (pp. 1-21).
- Antony-Newman, M. (2019). Parental involvement policies in Ontario: A critical analysis. *The School Community Journal*, 29(1), 143–170. <https://www.adi.org/journal/2019ss/Antony-NewmanSS2019.pdf>
- Bernal, D. D. (2002). Critical race theory, Latino critical theory, and critical raced-gendered epistemologies: Recognizing students of color as holders and creators of knowledge. *Qualitative inquiry*, 8(1), 105-126.
- Bhasin, A., Castro, M., & Román, D. (2023). Translanguaging through the lens of social justice: Unpacking educators' understanding and practices. *International Multilingual Research Journal*, 1-14. <https://doi.org/10.1080/19313152.2023.2208510>
- Brown, M. K., & Freiwald, C. (2020). Potluck: Building community and feasting among the middle preclassic Maya. In *Her Cup for Sweet Cacao: Food in Ancient Maya Society* (pp. 25-46). University of Texas Press.
- Brown, M., & Colon, R. (2007). *My name is Gabito/Me llamo Gabito: The life of Gabriel García Márquez/La vida de Gabriel García Márquez*. Cooper Square Publishing Llc.
- Brown, M., & López, R. (2004). *My Name is Celia/Me llamo Celia: The Life of Celia Cruz/La vida de Celia Cruz*. Flagstaff, AZ: Luna Rising.
- Brown, M., & López, R. (2013). *Tito Puente: Mambo king/ Rey del mambo*. Scholastic:
- Castro, D. C., & Franco, X. (2019). Equitable learning opportunities for young bilingual children: Strategies to promote oral language development. In I. Alanís & I. U. Iruka (Eds.), *Advancing equity and embracing diversity in early childhood education: Elevating voices and actions*. (pp. 73-77). Washington, DC: NAEYC.
- Cataldo, R., & Alanís, I. (2021). " Want to hear my story?" Developing Latino children's written narratives through culturally relevant family photographs. *AMAE Journal*, 15(1). <https://doi.org/10.24974/amae.15.1.416>
- Cenoz, J., & Gorter, D. (2022). Pedagogical translanguaging and its application to language classes. *RELC Journal*, 53(2), 342-354. <https://doi.org/10.1177/00336882221082751>
- Cummins, J. (2006). Identity texts: The imaginative construction of self through multiliteracies pedagogy. In O. García, T. Skutnabb-Kangas, & M. Torres-Guzmán (Eds.), *Imagining multilingual schools: Languages in education and globalization*. (pp. 51-68). Clevedon, England: Multilingual Matters.
- Cummins, J., & Early, M. (2011). *Identity texts: The collaborative creation of power in multilingual schools*. Trentham Books Stoke-on-Trent.
- DeJulio, S., Martinez, M., & Leija, M. (2022). Exploring books for beginning readers: Comparing leveled readers and Geisel award books. *Early Childhood Education Journal*. <https://doi.org/10.1007/s10643-022-01422-2>
- Delpit, L. 2006. "Lessons from Teachers." *Journal of Teacher Education* 57 (3): 220–231.
- Espinosa, L. M. (2015). Challenges and benefits of early bilingualism in the United States' context. *Global Education Review*, 2(1), 14-31. <https://files.eric.ed.gov/fulltext/EJ1055271.pdf>
- Esteban-Guitart, M., & Moll, L. C. (2014). Funds of identity: A new concept based on the funds of knowledge approach. *Culture & Psychology*, 20(1), 31-48. <https://doi.org/10.1177/1354067x13515934>
- Fránquiz, M. E., Leija, M. G., & Garza, I. (2015). "Figuring" bidirectional home and school connections along the biliteracy continuum. *Bilingual Research Journal*, 38(2), 152-171.
- García, O. (2009). *Bilingual education in the 21st century: A global perspective*. West Sussex, UK: Wiley-Blackwell.



- García, O., & Kleyn, T. (2016). Translanguaging theory in education. In O. Garcia & T. Kleyn (Eds.), *Translanguaging with multilingual students: Learning from classroom moments* (pp. 9-33). New York: Routledge.
- García, O., & Wei, L. (2014). *Translanguaging: Language, bilingualism and education*. New York, NY: Palgrave Macmillan.
- Genesse, F. (2015). Myths about early childhood bilingualism. *Canadian Psychology/Psychologie Canadienne*, 56(1), 6. <https://doi.org/10.1037/a0038599>
- González, N., Moll, L., & Amanti, C. (Eds.). (2005). *Funds of knowledge: Theorizing practices in households, communities, and classrooms*. Routledge.
- Gort, M. (2015). Transforming literacy learning and teaching through translanguaging and other typical practices associated with “Doing Being Bilingual.” *International Multilingual Research Journal*, 9(1), 1-6, <http://dx.doi.org/10.1080/19313152.2014.988030>
- Gort, M. (2006). Strategic codeswitching, interliteracy, and other phenomena of emergent bilingual writing: Lessons from first-grade dual language classrooms. *Journal of Early Childhood Literacy*, 6(3), 323-354. <https://doi.org/10.1177/1468798406069796>
- Heath, S. B. 1983. *Ways with Words: Language, Life, and Work in Communities*. Cambridge: Cambridge University Press.
- Keehne, C. N. K., Sarsona, M. W., Kawakami, A. J., & Au, K. N. (2018). Culturally responsive instruction and literacy learning. *Journal of Literacy Research*, 50(2), 141–166. <https://doi.org/10.1177/1086296X1876722>
- Ladson-Billings, G. (1995). Toward a theory of culturally relevant pedagogy. *American Educational Research Journal*, 32, 3. 465-491.
- Lay, N. (1982). Composing processes of ESL learners. A case study. *TESOL Quarterly*, 16, 406-416.
- Leija, M. G. (2020). Día de los Muertos: Opportunities to foster writing and reflect students’ cultural practices. *The Reading Teacher*, 73(4), 543-548.
- Leija, M. G., & Fránquiz, M. E. (2021). Building bridges between school and home: Teacher, parents, and students examining Latinx immigrant experiences. In G. Onchwari & S. Keengwe (Eds.), *Bridging Family-Teacher Relationships for ELL and Immigrant Students* (pp. 100-121). IGI Global. <https://doi.org/10.4018/978-1-7998-4712-0>
- Leija, M. G., Guerra, M. J., & Lewis, B. A. (2023). Día de los Muertos: Recognizing heterogeneity in Latinx cultural knowledge. *NABE Journal of Research and Practice*, 1-16. <https://doi.org/10.1080/26390043.2023.2235343>
- Leija, M. G., Martinez, M., & DeJulio, S. (2023). Beyond leveled readers: Finding engaging books to support beginning readers. *Texas Journal of Literacy Education*, 10(1).
- Leung, C., & Valdés, G. (2019). Translanguaging and the transdisciplinary framework for language teaching and learning in a multilingual world. *The Modern Language Journal*, 103(2), 348-370. <https://www.jstor.org/stable/45172005>
- Li Wei. (2013). Who’s teaching whom? Co-learning in multilingual classrooms. In S. May (Ed.), *The multilingual turn: Implications for SLA, TESOL and bilingual education* (pp. 167–190). New York: Routledge.
- Miles, M. B., Huberman, A. M., & Saldaña, J. (2014). *Qualitative data analysis: A methods sourcebook*. Sage.
- Milner, R. H. (2009). What does teacher education have to do with teaching? Implications for diversity studies. *Journal of Teacher Education*, 61, 118-131. <https://doi.org/10.1177/0022487109347670>
- Moll, L. C., Amanti, C., Neff, D., & González, N. (1992). Funds of knowledge for teaching: Using a qualitative approach to connect homes and classrooms. *Theory into Practice*, 31(2), 132–141.
- Muller, A. E., Hafstad, E. V., Himmels, J., Smedslund, G., Flottorp, S., Stensland, S. Ø., Stroobants, S., Van de Velde, S., & Vist, G. E. (2020). The mental health impact of the COVID-19 pandemic on healthcare workers, and interventions to help them: A rapid systematic review. *Psychiatry Research*, 293, 113441. <https://doi.org/10.1016/j.psychres.2020.113441>

- National Association for the Education of Young Children (2019). *Advancing Equity in Early Childhood Education Position Statement*. Washington, DC: NAEYC. <https://www.naeyc.org/resources/position-statements/equity>
- National Association for the Education of Young Children (2020). *Developmentally appropriate practice: A Position Statement of the National Association for the Education of Young Children*. Washington, DC: NAEYC.
- National Academies of Sciences, Engineering, and Medicine (NASEM). (2023). *Closing the Opportunity Gap for Young Children*. Washington, DC: The National Academies Press. <https://doi.org/10.17226/26743>
- Nash, K., Panther, L., & Arce-Boardman, A. (2018). La historia de mi nombre: A culturally sustaining early literacy practice. *The Reading Teacher*, 71(5), 605-609. <https://doi.org/10.1002/trtr.1665>
- Osorio, S. L. (2020). Building culturally and linguistically sustaining spaces for emergent bilinguals: Using read-alouds to promote translanguaging. *The Reading Teacher*, 74(2), 127-135. <https://doi-org.libweb.lib.utsa.edu/10.1002/trtr.1919>
- Paris, D. (2012). Culturally sustaining pedagogy: A needed change in stance, terminology, and practice. *Educational researcher*, 41(3), 93-97.
- Paris, D., & Alim, S. (2017). *Culturally sustaining pedagogies: Teaching and learning for justice in a changing world*. New York, NY: Teachers College Press.
- Ramírez, R., & López, L. M. (2023). Providing support for teachers of dual language learners, *Early Years*, 2, 25-26.
- Ramírez, R., López, L. M., & Ferron, J. (2018). Teacher characteristics that play a role in the language, literacy and math development of dual language learners. *Early Childhood Education Journal*, 47(1), 85-96. <http://dx.doi.org/10.1007/s10643-018-0907-9>
- Rodriguez, S. C. (2017). Understanding and teaching emergent bilingual students. In C. Martin & D. Polly (Eds.), *Handbook of Research on Teacher Education and Professional Development* (pp. 605-615). IGI Global.
- Salinas-González, I., Arreguín-Anderson, M., & Alanís, I. (2018). Supporting language: Culturally rich dramatic play. *Teaching Young Children* 11(2), 4-6. Retrieved from <https://login.libweb.lib.utsa.edu/login?url=https://www.proquest.com/trade-journals/supporting-language-culturally-rich-dramatic-play/docview/1973004758/se-2>
- Sayer, P. (2013). Translanguaging, texmex, and bilingual pedagogy: Emergent bilinguals learning through the vernacular. *TESOL Quarterly*, 47(1), 63-88. <https://doi-org.libweb.lib.utsa.edu/10.1002/tesq.53>
- Solórzano, D. G., & Bernal, D. D. (2001). Examining transformational resistance through a critical race and LatCrit theory framework: Chicana and Chicano students in an urban context. *Urban education*, 36(3), 308-342.
- Souto-Manning, M. (2010). Family involvement: Challenges to consider, strengths to build on. *Young Children*, 65(2), 82-88.
- Souto-Manning, M., & Martell, J. (2016). *Reading, writing, and talk: Inclusive teaching strategies for diverse learners, K-2*. Teachers College Press.
- Szech, L. (2021). How the funds of knowledge theory shifted teachers' dominant narratives of family involvement. *School Community Journal*, 31(1), 149-170. Available at: <http://www.schoolcommunitynetwork.org/SCJ.aspx>
- Teale, W.H., & Gambrell, L.B. (2007). Raising urban students' literacy achievement by engaging in authentic, challenging work. *The Reading Teacher*, 60(8), 728-739. <https://doi.org/10.1598/RT.60.8.3>
- Texas Education Agency. (2022). *Texas Essential Knowledge and Skills for Grade 3*. Texas Education Agency (TEA). Retrieved from: <https://tea.texas.gov/sites/default/files/grade3-teks-082022.pdf>
- Valencia, R. R., & Black, M. S. (2002). "Mexican Americans Don't Value Education!" On the Basis of the Myth, Mythmaking, and Debunking. *Journal of Latinos and Education*, 1(2), 81-103.
- Velasco, P., & García, O. (2014). Translanguaging and the writing of bilingual learners. *Bilingual Research Journal*, 37(1), 6-23. <https://doi.org/10.1080/15235882.2014.893270>

- Vogel, S., & García, O. (2017). Translanguaging. *Oxford Research Encyclopedia of Education*. <https://doi.org/10.1093/acrefore/9780190264093.013.181>
- Wynter-Hoyte, K., Braden, E. G., Rodriguez, S., & Thornton, N. (2019). Disrupting the status quo: Exploring culturally relevant and sustaining pedagogies for young diverse learners, *Race Ethnicity and Education*, 22, 3, 428-447. <https://doi.org/10.1080/13613324.2017.1382465>
- Zapata, A., & Laman, T. T. (2016). "I write to show how beautiful my languages are": Translingual writing instruction in English-dominant classrooms. *Language Arts*, 93(5), 366-378. <https://www.jstor.org/stable/44809858>



**Learning Stories in Practice with Young Dual Language Learners:**

**A Snail Class Project that Affirms Children's Linguistic and Artistic Identities**

Dr. Isauro M. Escamilla

San Francisco State University

**Learning Stories in Practice with Young Dual Language Learners:  
A Snail Class Project that Affirms Children's Linguistic and Artistic Identities**

**Abstract**

Teachers play a primary role in nurturing children's cultural and linguistic assets. The environment they create, the interactive activities they develop, and the authentic assessments they use all lead to qualitative differences for young children. Using constructivist grounded theory, this study sought to interpret how early childhood teachers use Learning Stories to document Latinx children's linguistic, artistic, social, and academic strengths as they facilitate the maintenance of children's home language(s) and cultures. Two key themes emerged from data analysis: (1) Creating spaces for interactive, play-based, cross-age learning and (2) Using learning stories to advance children's learning. Findings reveal the need for teachers to create critical discursive pedagogical spaces where children and their families' values, beliefs, and traditions form a foundational link to ensure students' success.

Keywords: Learning Stories, play-based, dual language, early childhood

**Learning Stories in Practice with Young Dual Language Learners:  
A Snail Class Project that Affirms Children’s Linguistic and Artistic Identities**

**Vignette**

On a balmy afternoon, in the reading area of the preschool classroom, on a small sofa designed for preschool children, 4-year-old Aaroncito and 8-year-old Juan sat together. Juan was teaching Aaroncito how to pronounce the body parts of a snail in English. One by one, Juan would point to a specific part of the snail sketch that Aaron had made that week. Patiently, Juan would say the words in English, “mouth, shell, foot, tentacles,” and Aaroncito would hesitatingly repeat after him. After noticing his hesitation, Juan slowed down and started saying the words one by one, one more time.

**Introduction**

This article showcases teachers’ role in helping children between the ages of four and eight to preserve the language spoken by their families, in this case, Spanish, through critical pedagogical spaces and Learning Stories. The study sought to interpret how early childhood teachers use Learning Stories to document Latinx children’s linguistic, artistic, social, and academic strengths as they facilitate the maintenance of children’s home language(s) and cultures.

In the school year 2021-2022, I, the author, was a teacher in a dual language immersion program where preschool children spend about 80 percent of the time using Spanish and the rest of the time English. Juan had been in that same preschool classroom when he was Aaroncito’s age. It was enduring that now, as a fourth-grade student, Juan volunteered in my class and mentored preschool children. Both Juan and Aaron were born in the United States, and it would take great effort from their families and teachers for them to retain their home language. Unlike in other countries, the U.S. lacks proper investments in retaining children’s home language(s). In Oaxaca, Mexico, for example, Dr. Lopez-Gopar has worked with preservice and in-service teachers who serve indigenous and mestizo (mixed-race) children to strategically create inclusive classroom environments in which the children and teachers negotiate affirming identities and value each other's languages. Effective teachers understand that the values, beliefs, and traditions of children and their families are foundational to ensuring students’ academic success and affirm their emergent identities as English and Spanish language speakers and learners (López-Gopar et al., 2014; Lopez-Gopar et al., 2020).

A language must be nurtured and used in joyful interactions with peers and adults to thrive. Children in the U.S. lose their home language due to many factors as if it was their fault when perhaps the lack of proper investments in educational systems, understanding, and professional development results in young children becoming detached from their family’s home language over time. In early childhood education, said affirmation can be interpreted as teachers’ validation of the many traits that make children unique in terms of their linguistic and artistic talents, cultural heritage, and family traditions (Escamilla et al., 2020; López-Gopar et al., 2011; Lopez-Gopar, 2016).

Teachers play a primary role in nurturing children’s cultural and linguistic assets. The environment they create, the interactive activities they develop, and the authentic assessments they use all lead to qualitative differences for young children. One of the roles that inclusive teachers play is that of educational engineers since they “envision, plan, and build bridges between students’ interests, expertise, experiences, individualities, and curricular goals” (Souto-Manning & Martell, 2016, p. 83). From a developmentally appropriate practice perspective, educators should “organize the daily and weekly schedule to provide children with extended blocks of time to engage in sustained investigation, exploration, interaction, and play” (NAEYC 2019, p. 22). In terms of evaluation, assessing young children’s learning should reflect families’ input and children’s background knowledge(s) and experiences (NAEYC, 2020).

### **Theoretical Background**

Critical pedagogy, used as a theoretical framework in this study, is guided by the belief that intentional and inclusive teaching practices can aid in shaping and strengthening democratic cultures with an anti-oppressive vision in educational institutions, communities, and societies (Kareepadath, 2018). Critical pedagogy was founded by the Brazilian philosopher and educator Paulo Freire, who promoted it through social critique in his thought-provoking book *Pedagogy of the Oppressed* (Freire, 1974, 2018). The goal of critical pedagogy is liberation from oppression through awakening the critical consciousness, which is based on the Portuguese term *conscientizacao*. This critical awareness is embedded in the Learning Stories philosophy and approach since these classroom stories are told and created with a genuine voice, drawing upon meaningful observations that include appealing visuals that capture specific aspects of children’s, families, and teachers’ lives. Perceived through the lens of critical pedagogy, Learning Stories are an integrated and revelatory blending of narrative inquiry and authentic assessment of children’s learning experiences. Using a social justice orientation, critical pedagogy disrupts deficit notions in the field and research. It embraces the power of Latinx children’s experiential learning as a foundation for academic advancement. As Latinx children confront historical barriers to multilingual and academic achievement, critical teachers reconceptualize deficit-based and restrictive notions of what counts as knowledge (Colegrove & Adair, 2014; García, 2009; Rosa, 2019; Souto-Manning & Rabadi-Roal, 2018) to one that validates the rich practices of children and families through an asset-based lens.

### **Relevant Literature**

Heightened attention has been paid to standardized assessment measures and curriculum alignment in public preschools (Ong & McLean, 2015). Dual language learners’ (DLL) funds of knowledge and instruction, however, have received scant consideration in this push for increased assessment. Early childhood teachers need alternative forms of authentic assessment measures that more clearly align with the image of children as competent learners (California Department of Education, 2020). Narrative inquiry can serve as a bridge to link critical pedagogies to students’ interests and their linguistic and creative talents. Narrative inquiry — involving adults and children — moves beyond a single story to employ a range of narratives to experience, understand, and transform teaching and learning (Sisk-Hilton & Meier, 2016).

### **Aotearoa – New Zealand's Learning Stories: A Brief Overview**

In critical pedagogy, educators feel empowered to critique and examine how they teach, the content of their teaching, and how learning is evaluated. However, mainstream schooling in the U.S. adheres to deficit curriculum and pedagogies devoid of critical analysis (Aragon, 2018). In New Zealand, however, all early childhood education services must provide a curriculum that enables young children to be confident and competent learners. The framework for this curriculum is set out in the Te Whariki or Early Childhood Curriculum. Each service weaves a local curriculum (or Whariki) based on the principles, goals, and learning outcomes found in Te Whariki (New Zealand Ministry of Education, 2017). Learning Stories document children's experiences, seeing them as competent and active participants in their learning journey (Carr, 2001; Nyland & Alfayez, 2012; White, 2019). Figure 1 outlines the desired elements to compose a Learning Story (see Escamilla et al., 2021, for more information). The indispensable written elements are the description of the events, the pedagogical meaning of such events, and a (tentative) plan to support the child and extend their learning.

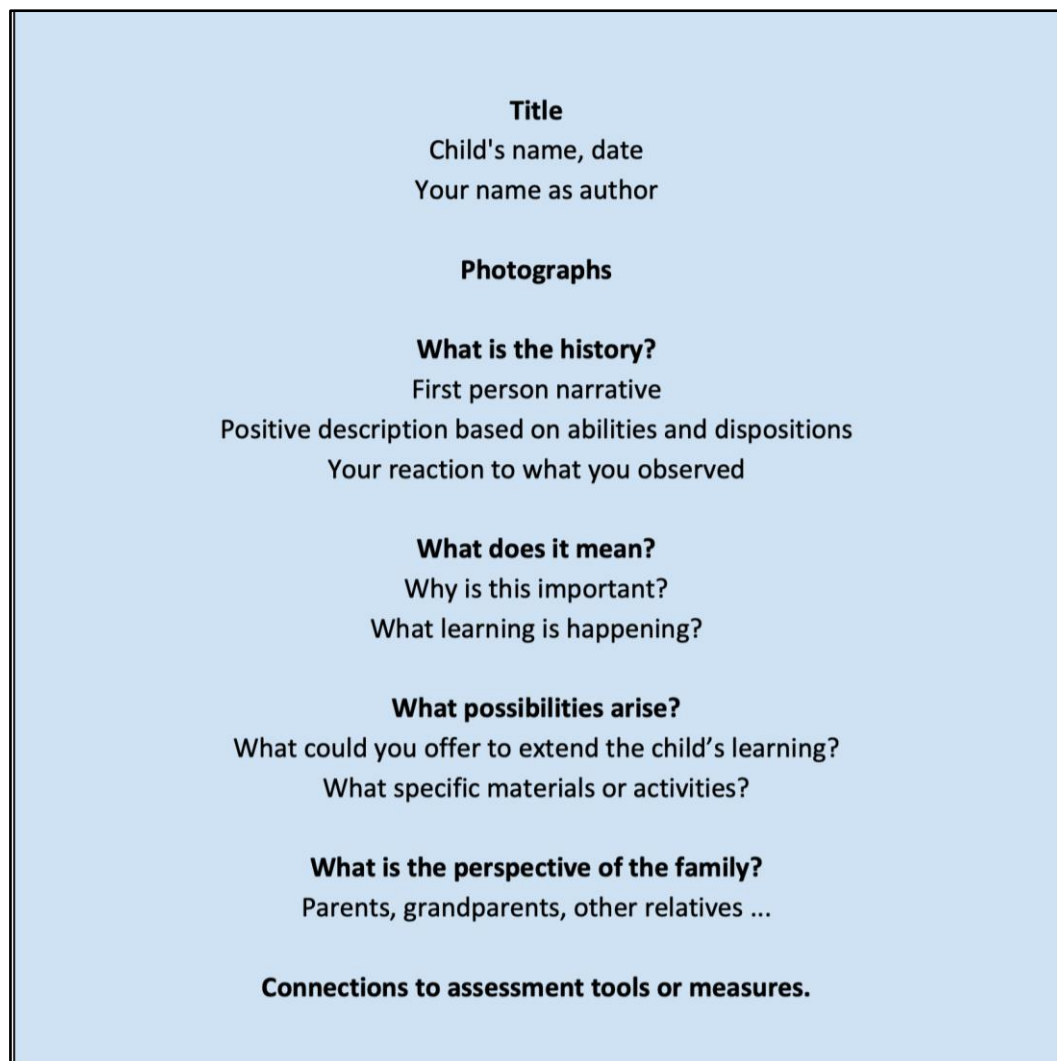


Figure 1. Elements of a Learning Story



## **The Power of Narrative in Learning Stories**

Learning Stories are a narrative-based approach to assessment and teaching that highlight children's strengths and improve instruction based on the interests, talents, needs, and rights of children and their families (Carr & Lee, 2012, 2019; Carter, 2010). U.S. early childhood educators have explored innovative ideas to document children's learning through narrative assessment approaches (Carter, 2017; Escamilla, Alanís, & Meier, 2023; Escamilla et al., 2021; Meier & Stremmel, 2010; Pack, 2016; Southcott, 2015; White, 2019), breaking away from more traditional methods which view children and families from a deficit perspective, highlighting what they cannot do instead of what they can. The Learning Stories framework honors multiple perspectives to create a complete image of the child as a learner, including the voice of teachers as narrators, the voice and actions of children as active participants in the learning process, and the voices of families who offer their perspective, either in writing or orally, as the most important teachers in their children's lives. By encouraging teachers to recognize children as competent explorers and learners at any given moment, Learning Stories provide a way to document and make visible children's strengths and improve instruction practices based on the unique interests, talents, knowledge, and expertise of children, teachers, and families (Carr & Lee, 2012, 2019).

## **Methodology**

This qualitative study used a constructivist grounded theory approach that supports knowledge as a social construct, uses close contextual data analysis, and engages in the conceptual process of discovering potential theoretical implications from observed classroom phenomena (Corbin & Strauss, 2008; Morse et al., 2016). The data from this study comes from a larger project with the main research question, "How can Learning Stories function as authentic assessments for documenting children's linguistic and social capital and academic knowledge?" sought to illuminate and interpret how early childhood teachers can use Learning Stories to document Latinx children's linguistic, artistic, social, and academic strengths as they facilitate the maintenance of children's home language(s) and cultures. In the 2021-2022 school year, twenty-four Learning Stories were collected to interpret classroom data to strengthen children's learning and improve teaching practices. The Learning Stories functioned as multimodal artifacts (Van Leeuwen, 2017) as both the focus of documentation and the unit of analysis (Sisk-Hilton & Meier, 2017).

## **Context of the Study**

The public preschool where the study took place serves approximately 60 children between 3 and 5 years old and is open Monday through Friday from 7:30 a.m. to 5:30 p.m. Educators work 8-hour staggered shifts to ensure a required ratio of three teachers and 24 children in two dual language classrooms. One, a Cantonese-English program, and the other, where the data was collected, a Spanish-English program. The preschool reflects the ethnic, economic, cultural, and linguistic diversity of the neighborhood, which consists primarily of first- and second-generation immigrant families from Mexico, Central America, and Asia. Approximately 95% of the students receive subsidized services. Using the project approach (Helm & Katz, 2016), teachers embrace children's interests and the immediate environment for developing in-depth studies of specific topics from multiple perspectives. Investigations on various topics, such as nature, social studies, numeracy, or literacy, are usually undertaken and focus on answering questions about a topic or theme posed by teachers and children. Classroom investigations may last from a few days to several months and are routinely documented by teachers and children. This study of snails lasted approximately between fourteen and sixteen weeks. Photographs, recorded conversations, short videos, children's artwork, dictations, and teachers' reflections and interpretations eventually become stories of teaching and learning, specifically, Learning Stories (Carr & Lee, 2019; Escamilla et al., 2021).

### **Data Collection**

Learning stories and student artifacts were collected during a unit on snails. The project on snails lasted roughly fourteen to sixteen weeks in the Spring of 2021 between February and May. Teachers from the preschool and the 4<sup>th</sup>-grade classrooms organized a collaborative learning process on language, creative arts, and literacy. The older children joined the preschool classroom three times a week for about 30 to 45 minutes. Children had direct experience with snails, drew and wrote about snails, and engaged in read-alouds about snails. Additionally, a Spanish-speaking dance instructor was invited to explore with the children the movements of the snail. The teachers utilized the Learning Stories to analyze the children's language, social interests, and actions, plan activities to extend their learning, and invite their parents to dictate or write their thoughts and feelings about their child's learning. The Learning Stories featured photographs, children's talk and interactions, artwork, and teacher and family observations.

### **Data Analysis**

Data was analyzed using grounded theory and successive rounds of coding and theming of the data (Saldana, 2021). Observations of children in play-based interactions, notes, photographs, and recorded videos provided the documentation for creating the Learning Stories. Throughout the coding cycle, connections were made to the critical pedagogy framework and Learning Stories literature. Through the data analysis, two key themes emerged. 1. Creating spaces for interactive, play-based, cross-age learning and 2. Using learning stories to advance children's learning. The themes and implications were triangulated from data sources and iterative rounds of cross-checking the codes with the project's initial goals, research question, and theoretical frame.

## **Findings and Discussion**

### **Creating Spaces for Interactive, Play-based, Cross-age Learning**

Concrete experiences and active exploration align with a developmentally appropriate approach to learning (NAEYC, 2019). The teachers in this study used an inquiry-based approach to learning. They embraced children's interests and the immediate environment to develop in-depth studies of specific topics using multiple play-based, interactive, and cross-age activities.

One day, in early February, Ms. Kristen and four 4<sup>th</sup>-grade students (Melani, Daniel, Alex, and Astrid) came down from the second floor to the preschool class. They brought a see-through container to show the preschool children a tiny egg laid by one of the snails. The preschool children were excited to see the snails and the miniature egg. Ms. Kristen offered the preschool class the opportunity to care for a few snails if they had a container where to keep them. A discarded fish tank would become the habitat preschool children created with much anticipation for the snails' arrival.

The teachers used this opportunity to create a written list of items that needed to be gathered. Through this shared writing activity, children dictated what needed to be brought. They used informational books read in class and the older children's experiences to formulate the list. Their list consisted of *pedritas*, *tierra*, *pasto*, *agua*, and *plantas pequeñas* [pebbles, soil, moss or grass, water, and small plants].

There was also much discussion about snails. For example, Melani (4th grade) remarked:

*No pongan arena en la pecera porque a los caracoles no les gusta la arena y pueden morir. Comen lechuga y también hojas de plantas de frijoles. Lo sé porque eso es lo que les doy de comer a los caracoles que tengo en casa.* [Do not put out sand in the fish tank

because snails do not like sand; they could die. They eat lettuce and leaves of bean plants. I know because I also have snails at home, and that's what I feed them].

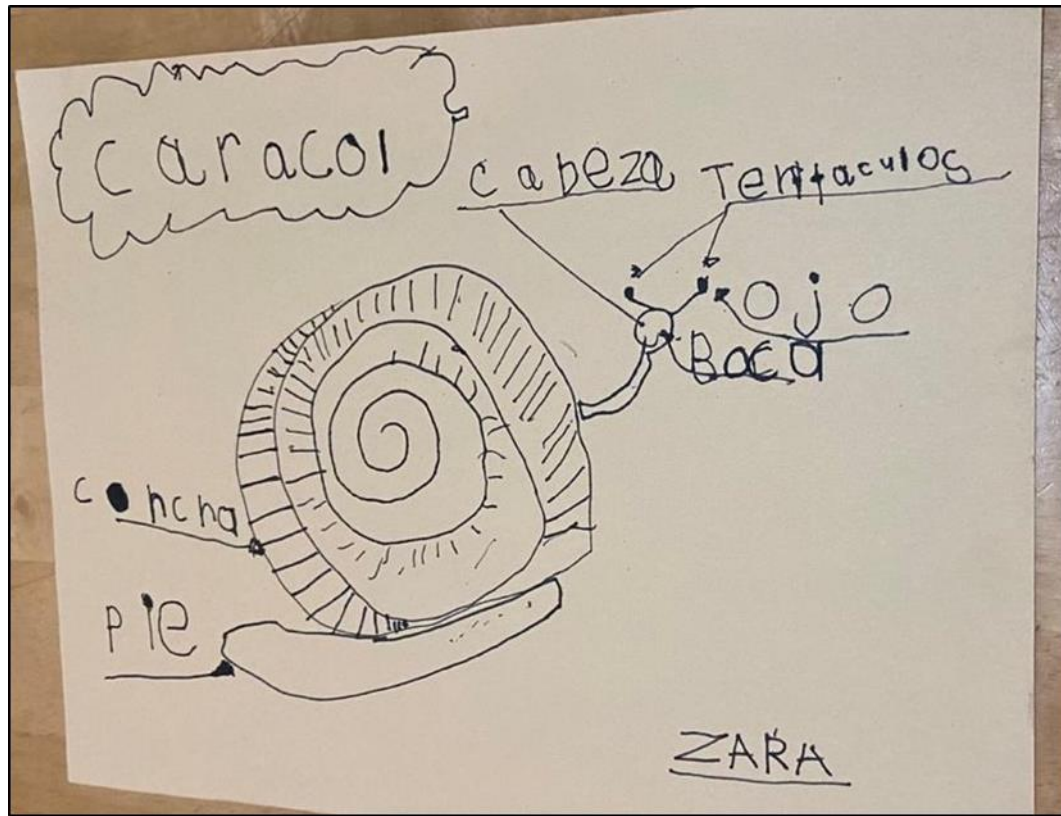
Melanie's funds of knowledge led to a whole group discussion about her snails at home, how she found them, and how she cared for them. The preschool children excitedly asked her questions and demonstrated their curiosity about snails.

Throughout the unit, teachers created multiple snail-related activities for the preschool children. Children made sketches, drawings, and paintings of the snails and snail models in clay. They used letters to sound out and create words. The words were created in Spanish and English with colorful modeling clay. Children were encouraged to draw or write their new understandings. Figure 2 shows preschooler Aaroncito focused on transferring onto canvas the sketch of a snail he had made on construction paper. The snail he drew is the same drawing he used when nine-year-old Juan helped him identify and name the snail's main body parts in English. The picture depicts Aaron's intensity as he sketches the details of the snail's shell.



*Figure 2. Four-year-old Aaroncito's Pencil Drawing a Snail on Canvas.*

The next figure (Figure 3) depicts five-year-old Zara's detailed representation of a snail and words in Spanish she and her classmates had become familiar with while studying the snails adopted as classroom pets. Within the context of the snail unit, children developed oracy and early literacy skills related to these small creatures. Kinesthetically and experientially, children explored and learned these words in Spanish—their home language. Some of these words were: *caracol*, *concha*, *caparazón*, *pie*, *espiral*, *tentáculos*, *boca*, *cabeza*, and *cola* [snail, shell, foot, spiral, tentacles, mouth, head, and tail].



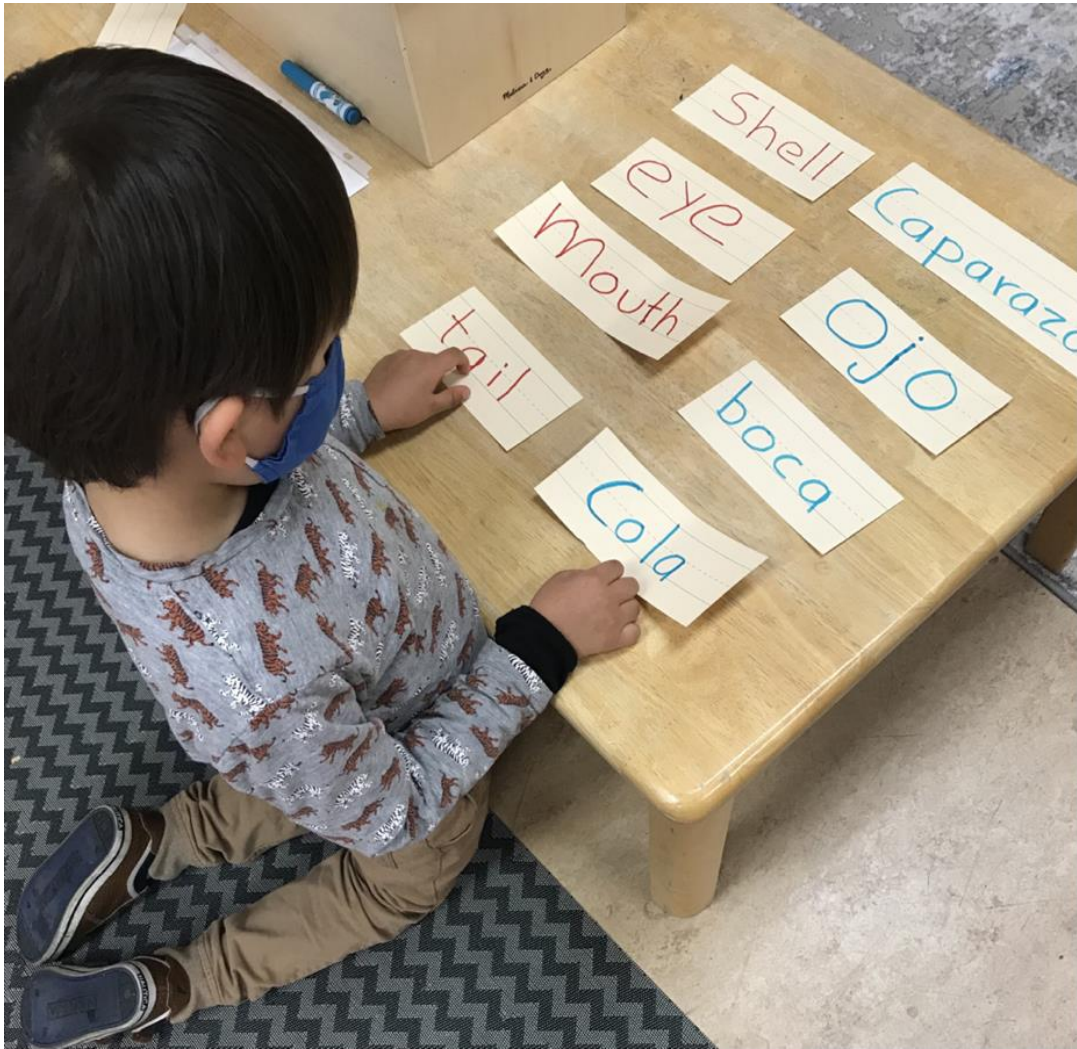
*Figure 3. Five-year-old Zara's Ink Drawing on Construction Paper.*

Over time, Melani, one of the 4th graders, created a bilingual illustrated text with the anatomy of snails (Figure 4). The preschool children used this as a reference for their own illustrations.



Figure 4. Bilingual text created by Melani (4th-grade student) for preschool children

To further enhance children's biliteracy, teachers created lists of words in English and Spanish. In this subtle way, the preschool children navigated between two language codes and learned to recognize their differences and similarities (Figure 5). This is an example of children developing meta-linguistic awareness (Mercuri & Musanti, 2021) that will serve them as they grow in their understanding of their emerging bilingual skills.



*Figure 5. Four-year-old Frank compared a list of words of snail body parts. Words are color-coded: red for English and blue for Spanish.*

Figure 6 depicts the interaction between Mateo and Zoe as he orally describes his snail creation from model clay. Mateo emphasizes how he used the book as a reference for his own snail. We see how his peers listen as he describes aspects of the snail's shell.



Figure 6. Five-year-old Mateo shows Zoe the snail he made with clay. He says “Mira Zoe, mi caracol es como el del libro. [Look, Zoe, my snail is like the one in the book.]”

The creation of Learning Stories entails documentation of how children use skills and apply knowledge while engaging with materials and others in a natural play-based and interactive setting (Escamilla et al., 2021). This requires intentionality from teachers. Educators who engage in critical pedagogy create discursive spaces for conversations and play. Observing children during their play and listening to them interact with others is an effective means of determining their social and academic languages.

Teachers created interactive and cross-age learning environments where playful oracy and literacy activities were promoted. In these playful learning spaces, children are more inclined to take risks with language as they access a greater linguistic repertoire to construct meaning fluidly (Arreguín-Anderson, Salinas-González, & Alanís, 2018). These educators understand that Latinx children, primarily from immigrant families and communities, rightfully deserve meaningful, rich, play-based learning experiences for the exploration and exchange of their funds of knowledge from their home, school, and community (Payà Rico & Bantulà Janot, 2021).


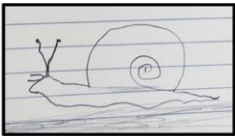

Teachers also provided children with the autonomy to choose from meaningful activities throughout the day, as well as the linguistic freedom for social inclusion and intellectual engagement through peer-based interactions. Through these multiple activities, teachers created a complete image of the child as a learner. The teachers in this study were educational engineers who “envision, plan, and build bridges between students’ interests, expertise, experiences, individualities, and curricular goals” (Souto-Manning & Martell, 2016, p. 83). They created authentic and interactive learning activities where children revealed their conceptual understandings and linguistic knowledge. Through these activities, teachers developed a richer understanding of children’s progress. They, in turn, use this understanding to develop individual Learning Stories. In this way, teachers embraced the power of Latinx children’s experiential learning as a foundation for authentic assessment through Learning Stories.

### Using Learning Stories to Advance Children’s Learning

Learning Stories document children’s experiences, seeing them as competent and active participants in their learning journey (Carr, 2001; Nyland & Alfayez, 2012; White, 2019). Learning Stories allow teachers to document small moments of learning and growth as they determine opportunities and possibilities for scaffolded learning. As part of this cross-age unit on snails, four Learning Stories were written in Spanish for the 4th-grade children, documenting their learning in their home language: One for Daniel, one for Alex, one for Melani, and one for Juan. The next four images (Figure 7) depict a complete Learning Story written for Daniel. I (the author of the Learning Story) utilized Daniel’s words, written text, drawings, and snail creation to document his linguistic, artistic, and academic knowledge.

1

**Daniel y su afición por los caracoles**  
Febrero 26, 2022  
Isauro M. Escamilla

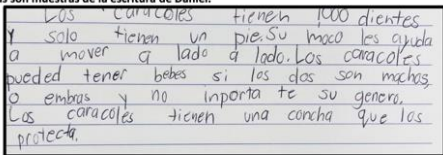
Danielito,

Gracias por ofrecerte de voluntario para leer a los niños de pre-escolar el libro que ellos quisieran. Es algo muy noble de tu parte. Pero no me sorprende, pues desde que te conozco has sido un niño de buenos sentimientos y entusiasmado por aprender y ayudar a los demás. En esta ocasión, al saber que los niños estaban interesados en aprender sobre la vida y anatomía

2

de los caracoles, te ofreciste a traer un par de libros sobre este tema. Y también escribiste lo que ya sabes sobre los caracoles. Por ejemplo, escribiste lo siguiente:

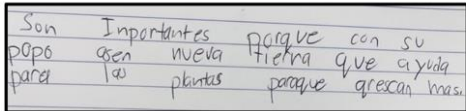
**Estas son muestras de la escritura de Daniel.**



Los caracoles tienen 1000 dientes y solo tienen un pie. Su moco les ayuda a moverse de lado a lado. Los caracoles pueden tener bebés si los dos son machos o hembras y no importa su género. Los caracoles tienen una concha que los protege.

Los caracoles tienen 1000 dientes y solo tienen un pie. Su moco les ayuda a moverse de lado a lado. Los caracoles pueden tener bebés si los dos son machos o hembras y no importa su género. Los caracoles tienen una concha que los protege.

Daniel, continuaste recordando tus conocimientos y así respondiste a la pregunta “¿Por qué son importantes los caracoles?” “Son importantes porque con su popo hacen nueva tierra que ayuda para las plantas para que crezcan más.”



Son importantes porque con su popo hacen nueva tierra que ayuda para las plantas para que crezcan más.

En estos dos video clips Daniel lee el texto que acababa de escribir.

**Video Clip 1. Daniel, lee la información que escribió en Español sobre caracoles.**  
<https://youtu.be/n7IFREH1Kq>

**Video clip 2 Daniel, lee sobre la importancia que los caracoles tienen en un jardín.**  
<https://youtu.be/7swfCIP-x4Q>

**¿Qué significa y por qué es importante esta historia de aprendizaje?**

Esta historia y estas actividades revelan a Daniel como un niño seguro de sí mismo a leer el texto que él mismo ha redactado. En dicho texto podemos ver que Daniel omitió algunos



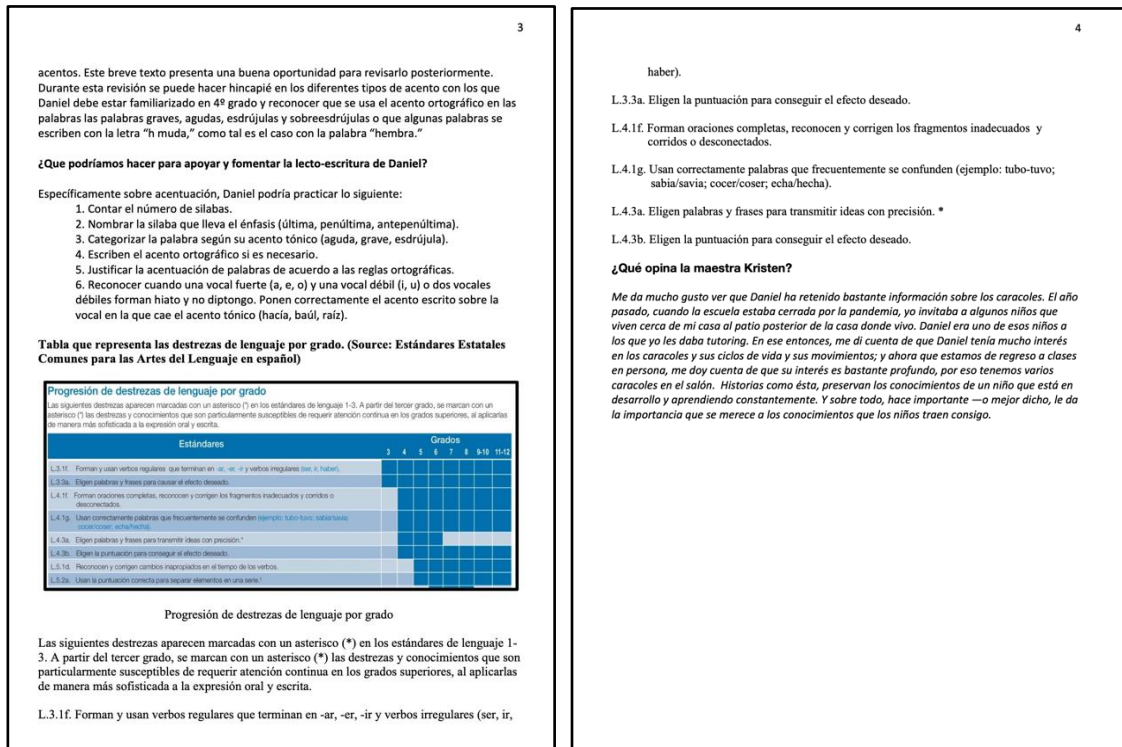


Figure 7. Screenshots of Daniel's Four-Page Learning Story

This is an excerpt from Daniel's Learning Story, which was originally written in Spanish and translated by the author:

Danielito, gracias por ofrecerte de voluntario para leer a los niños de pre-escolar el libro que ellos quisieran. Es algo muy noble de tu parte. Pero no me sorprende, pues desde que te conozco has sido un niño de buenos sentimientos y entusiasmado por aprender y ayudar a los demás. En esta ocasión, al saber que los niños estaban interesados en aprender sobre la vida y anatomía de los caracoles, te ofreciste a traer un par de libros sobre este tema. Y también escribiste lo que ya sabes sobre los caracoles. Por ejemplo, escribiste lo siguiente: *[Danielito, Thank you for volunteering to read the preschoolers the book they want. It is a very noble thing on your part. But I am not surprised, because since I have known you have been a child of good feelings and enthusiastic about learning and helping others. On this occasion, knowing that the children were interested in learning about the life and anatomy of snails, you offered to bring a couple of books on this topic. And you also wrote what you already know about snails. For example, you wrote the following:]*

Los caracoles tienen 1000 dientes  
 Y solo tienen un pie. Su moco les ayuda  
 a mover a lado a lado. Los caracoles  
 pueden tener bebés si las dos son machos,  
 o embras y no importa te su genero.  
 Los caracoles tienen una concha que las  
 protecta.

Figure 8. Excerpt of Daniel's Handwritten Text

Translation of Daniel's hand-written text (Figure 8):

Snails have 1000 teeth and only have one foot. Their mucus helps them move from side to side. Snails can have babies whether they are both male or female and their gender does not matter. Snails have a shell that protects them.

Through his authentic writing, Daniel reveals his knowledge about snails. Daniel's original hand-written text has a few grammatical and syntactical errors, which Daniel can correct with more opportunities to write in his home language about topics of his interest. However, in the context of Learning Stories that require an analysis of specific learning moments for individual children, this was written for Daniel under the heading, *¿What does this Learning Story mean, and why is this important?*

### **¿Qué significa y porqué es importante esta historia de aprendizaje?**

Esta historia y estas actividades revelan a Daniel como un niño seguro de sí mismo a leer el texto que él mismo ha redactado. En dicho texto podemos ver que Daniel omitió algunos acentos. Este breve texto presenta una buena oportunidad para revisarlo posteriormente. Durante esta revisión se puede hacer hincapié en los diferentes tipos de acento con los que Daniel debe estar familiarizado en 4º grado y reconocer que se usa el acento ortográfico en las palabras graves, agudas, esdrújulas y sobreesdrújulas o que algunas palabras se escriben con la letra "h muda," como tal es el caso con la palabra "hembra." *[This story and these activities reveal Daniel as a self-confident child to read the text he has written. In this text we can see that Daniel omitted some accents. This short text presents a good opportunity to revise it later. During this review, it can be emphasized the different types of accents that Daniel should be familiar with in 4th grade and recognize that the orthographic accent is used in agudas, graves, esdrújulas, and sobreesdrújulas words or that some words are written with the soundless letter "h," as such is the case with the word "hembra."]*

What is important to highlight is the action plan that can be put into place to support Daniel in his Spanish writing as he revises his work. There are four simple accentuation rules that Daniel needs to remember to excel at Spanish spelling. These orthographic guidelines are based on the place that occupies the tonic syllable. Some words may lose their accents when changed to plural, masculine to feminine, or vice

versa. Instead of learning the accent rules in isolation, the authentic nature of the writing task allows Daniel to learn the rules using his own writing.


In a Learning Story, a familiar adult who knows the child also contributes to the story. In Daniel's case, it was his 4<sup>th</sup>-grade teacher Ms. Kristen, who contributed the following reflection to Daniel's Learning Story:

¿Qué opina la maestra Kristen? Me da mucho gusto ver que Daniel ha retenido bastante información sobre los caracoles. El año pasado, cuando la escuela estaba cerrada por la pandemia, yo invitaba a algunos niños que viven cerca de mi casa al patio posterior de la casa donde vivo. Daniel era uno de esos niños a los que yo les daba tutoring. En ese entonces, me di cuenta de que Daniel tenía mucho interés en los caracoles y sus ciclos de vida y sus movimientos; y ahora que estamos de regreso a clases en persona, me doy cuenta de que su interés es bastante profundo, por eso tenemos varios caracoles en el salón. Historias como ésta, preservan los conocimientos de un niño que está en desarrollo y aprendiendo constantemente. Y sobre todo, hace importante —o mejor dicho, le da la importancia que se merece a los conocimientos que los niños traen consigo. [*What does teacher Ms. Kristen think? I'm glad to see that Daniel has retained quite a bit of information about snails. Last year, when the school was closed because of the pandemic, I invited some children who live near my house to the backyard of the house where I live. Daniel was one of those kids I tutored. At that time, I realized that Daniel had a lot of interest in snails and their life cycles and movements; And now that we're back to in-person school, I realize that your interest is pretty deep, which is why we have several snails in the classroom. Stories like this preserve the knowledge of a child who is constantly developing and learning. And above all, it makes important—or rather, gives the importance it deserves to the knowledge that children bring with them.*]

Learning Stories can be a manifestation of children's funds of knowledge. Here, Ms. Kristen leveraged Daniel's knowledge to refine his understanding further. Essentially, she used his lived experiences beyond the classroom walls as a springboard for what children would be learning at school.

In a follow-up email, Minerva, Daniel's mom, also contributed her thoughts about Daniel's Learning Story:

Hola Maestro...Le quiero dar las gracias por todo su apoyo con los niños y toda la familia. Que Dios los bendiga y todos sus sueños se haga realidad. Gracias por la historia

de Daniel y sus recomendaciones, así lo haré. Cuídense mucho.  Saludos a su mami. Dios los bendiga. — Minerva. [*Hello maestro... I want to thank you for all your support with the children and the whole family. May God bless you and all your dreams come true. Thank you for Daniel's story and your recommendations, I will. Take good care of yourselves. Greetings to your mommy. God bless you.* — Minerva.]

Learning Stories offer families the symbolic and practical space to voice their ideas on their children's learning. Families' words serve as critical components to the children's Learning Stories.

In subsequent sessions, when the 4<sup>th</sup>-grade children joined the preschool children, Daniel noticed the younger children, like Aaroncito and Zoe, were painting snails on canvas with acrylic paints (Figure 9 and Figure 10). Daniel was inspired to explore his own creative process.



Figure 9. Aaron Painting a Snail on Canvas.



Figure 10. Zoe's Rainbow Snail. Acrylic Paint and Crayon on Canvas (14x11).

Daniel expressed his desire to create a painting. He knew how to prepare the canvas with a foundational layer of gesso by dipping a brush directly into the container and adding a few drops of water

to thin it out. Daniel seemed knowledgeable and experienced with the creative process of paint mixing and shared his funds of knowledge with the preschool children. He also said he loved to paint sunsets. He returned to the classroom multiple times and continued working on his painting as he helped other children with ideas to enhance their creative works and co-constructed new knowledge. Daniel created two acrylic paintings on canvas (Figure 11 and Figure 12).



Figure 11. Daniel's Snails at Sunset, Acrylic Paint on Canvas (12 x 12).



Figure 12. Daniel's painting of two snails at dusk. Acrylic Paint on Canvas (16x20).

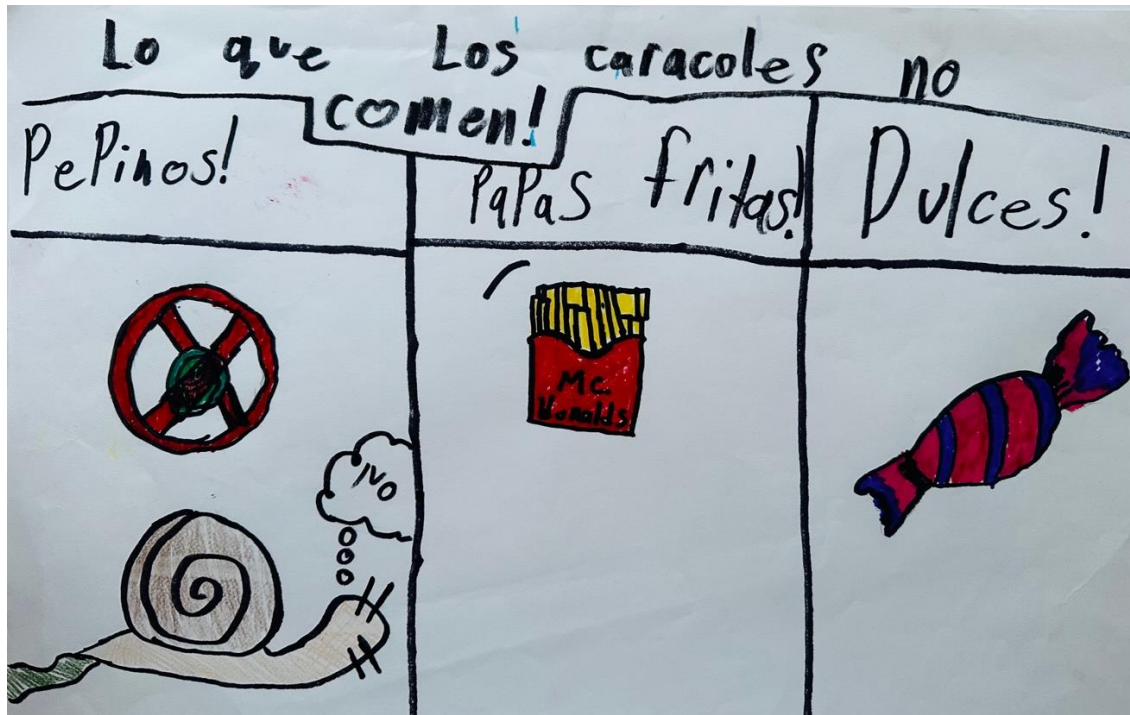


Figure 13. Melani's Sign for Preschool Children "What Snails Do Not Eat: Cucumber, French Fries and Candy"

The systematic observation, writing, and reflection process contributes to inclusive and authentic teaching and learning practices to advance equity and embrace diversity in U.S. educational contexts (Alanís et al., 2021). To achieve a holistic view of learning, documentation requires looking at all the observational notes and records, photographs, and other materials collected that, when put together, tell a child's story (Seitz, 2023). The process of documentation and all that it entails—observing, recording, reflecting, and writing; must be reconceptualized as core principles in early childhood education. Learning Stories help teachers become more intentional in creating discursive spaces for children's conversations and play. In doing so, Learning Stories allow teachers to foreground what they see as valuable in playful, relational, and ethical pedagogies (Albin-Clark, 2021). Suggesting that playful learning is a powerful pedagogical vehicle for a young child and serves as a catalyst for developing academic, linguistic, and artistic concepts. As importantly, caring discourses are also at work (Aslanian, 2015) as teachers use strengths-based language that strengthens the relationships between teachers, children, and families.

### Implications

Early education teachers play a pivotal role in supporting children's language and literacy development; as such, there are critical implications from this work. First, teachers working with young bilinguals learning the intricacies of two languages should use students' home language and lived experiences beyond the classroom walls as springboards to generate and even co-create a meaningful play-based interactive curriculum (Haneda, 2014). Creating critical discursive pedagogical spaces where children and their families' values, beliefs, and traditions bring a foundational link ensures students' success. It also affirms their emergent identities as bilingual learners. Children from traditionally marginalized communities rarely experience this affirmation—respect, recognition, and acceptance from their teachers (Haneda, 2014). In this case, affirming can be interpreted as validation or acceptance toward

identity (López-Gopar et al., 2011), where young students learn to appreciate who they are, where they come from, and the many traits that make them unique in terms of their languages, and funds of knowledge.

Second, teachers must be fully present to notice and document how children practice exploring and integrating their linguistic, social, and artistic talents. Educational activities with young preschool children exploring English and learning their home language should be based on daily observations of children at play, teachers' reflections, and, as much as possible, family input. Allocating time for teachers to photograph, take notes, record short videos of their classroom life, and reflect on those small moments is a critical change we must embrace at the classroom level. We can conceive of time for reflection and writing not solely as a teacher's responsibility but as an educator's right, beneficial not only for teachers but for children, families, and the community. This is one way of advancing equity, embracing diversity, and fighting social injustice. However, teachers cannot do it alone. They need support. The NAEYC position statement on equity posits that "all early childhood educators have a professional obligation to advance equity." (NAEYC, 2019, p. 1). Finally, in U.S. public preschools that primarily serve children of color, intentionality and strengths-based observation and assessment practices must also be integrated with pre-service and in-service professional development by linking assessment measures with the social, cultural, and linguistic elements that influence the dynamics, content, and strategies of teaching and learning.

### **Conclusion**

In the current political and ideological divide and anti-immigrant climate in the U.S., it is critical for early childhood educators to offer a counternarrative that highlights the contributions of immigrant families, children, and teachers to the larger social tapestry. Creating critical pedagogical spaces where children, parents, families, and teachers can tell their stories in their own words is an invitation to share first-hand accounts of teaching and learning, hope, and success. A narrative-based assessment and curricular plan contained in a Learning Story can communicate more than an assessment score or a checklist of skills since it is written to the children, making it easier for teachers to write and for families to understand and which highlight children's dispositions for learning such as curiosity, cooperation, enthusiasm, creativity, persistence, imagination, and more. Teachers willing to embrace the knowledge and experiences that immigrant families bring need frameworks beyond standard assessments that only perpetuate a negative view of young emergent bilinguals as incompetent, incapable, or unskilled. Learning Stories become the primary vehicle for engaging in critical pedagogical and intellectual work and humanizing an assessment system that has historically marginalized the language and social talents of Latinx children, families, and preschool educators.



## List of Figures

Figure 1. Elements of a Learning Story.

Figure 2. Four-year-old Aaroncito's Pencil Drawing a Snail on Canvas.

Figure 3. Five-year-old Zara's Ink Drawing on Construction Paper.

Figure 4. Bilingual text created by Melani (4th-grade student) for preschool children.

Figure 5. Four-year-old Frank compared a list of words of snail body parts. Words are color-coded: red for English and blue for Spanish.

Figure 6. Five-year-old Mateo shows Zoe the snail he made with clay. He says "Mira Zoe, mi caracol es como el del libro. [Look, Zoe, my snail is like the one in the book.]

Figure 7. Screenshots of Daniel's Four-Page Learning Story.

Figure 8. Excerpt of Daniel's Handwritten Text.

Figure 9. Figure 9. Aaroncito's Painting a Snail on Canvas.

Figure 10. Zoe's Rainbow Snail. (Acrylic Paint and Crayon on Canvas (14x11.)

Figure 11. Acrylic on canvas. Daniel's snails at sunset.

Figure 12. Daniel's painting of two snails at dusk.

Figure 13. Melani's Sign for Preschool Children "What Snails Do Not Eat: Cucumber, French Fries and Candy"

## References

- Alanís, I., Iruka, I.U., & Friedman, S. (2021). (Eds). *Advancing equity and embracing diversity in early childhood education: Elevating voices and action*. NAEYC.
- Albian-Clark, J. (2021). What is documentation doing? Early childhood education teachers shifting from and between the meanings and actions of documentation practices *Contemporary Issues in Early Childhood* 22(2) 140–155.  
DOI: 10.1177/1463949120917157journals.sagepub.com/home/cie
- Aragon, A. (2018). Achieving Latina students: Aspirational counterstories and critical reflections on parental community cultural wealth. *Journal of Latinos and Education*, 17(4), 373-385.  
<https://doi.org/10.1080/15348431.2017.1355804>
- Arreguín-Anderson, M. G., Salinas-Gonzalez, I., & Alanís, I. (2018). Translingual play that promotes cultural connections. *International Multilingual Research Journal* 12(4), 273-287.
- Aslanian, T. (2015). Getting behind discourses of love, care and maternalism in early childhood education. *Contemporary Issues in Early Childhood* 16(2): 153–165.
- California Department of Education. (2020). Improving education for multilingual and English Language Learners: Research to practice.  
<https://www.cde.ca.gov/sp/el/er/documents/mleeducationintro.pdf>
- Carr, M. (2001). *Assessment in early childhood settings: Learning stories*. SAGE Publications.
- Carr, M., & Lee, W. (2012). *Learning stories: Constructing learner identities*. SAGE Publications.
- Carr, M., & Lee, W. (2019). *Learning stories in practice*. SAGE Publications.
- Carter, M. (2010). Using Learning stories to strengthen teachers' relationships with children. *Exchange*, 32(6), 40–44. <https://hilltopcc.com/wp-content/uploads/2018/10/2016-Learning-Stories-1.pdf>  
[https://hilltopcc.com/wp-content/uploads/2017/07/Study-tour\\_Eliana.pdf](https://hilltopcc.com/wp-content/uploads/2017/07/Study-tour_Eliana.pdf)
- Carter, M. (2017). Growing ourselves as leaders: A conversation with Annie White. *Exchange*, 46–51.
- Corbin, J., & Strauss, A. (2008). *Qualitative research: Techniques and procedures for developing grounded theory*, 3.
- Escamilla, I. M., Alanís, I., & Meier, D. R. (2023). Translanguaging in preschool: Supporting language rights and social justice for Latino/a children, families, and educators. *Contemporary Issues in Early Childhood Special Issue: Justice for whom and according to whom? (Re)Considering equity, inclusion, and belonging in early care and education*. First published online May 17, 2023.  
<https://journals.sagepub.com/eprint/7QTSYMN7A7NUBHRKKSQ/full>  
<https://doi.org/10.1177/14639491231164129>
- Escamilla, I., Gonzalez-Garcia, S., & Alvarez, A. (2020). Nature-Based Education to Support Language Development and Inquiry with Preschool Dual Language Learners. In D. Meier. & Sisk-Hilton, S. (Eds.). *Nature Education with Young Children: Integrating Inquiry and Practice*. (pp 158-178). Routledge.
- Escamilla, I. M., Kroll, L. R., Meier, D. R., & White, A. (2021). *Learning Stories and Teacher Inquiry Groups: Re-imagining Teaching and Assessment in Early Childhood*. Washington, DC: National Association for the Education of Young Children.
- Freire, P. (1974). *Education for critical consciousness*. London: Sheed and Ward.
- Freire, P. (2018). *Pedagogy of the oppressed*. Bloomsbury Publishing.
- Haneda, M. (2014). From academic language to academic communication: Building on English learners' resources. *Linguistics and Education*, 26, 126-135.
- Helm, J. H., & Katz, L. G. (2016). *Young investigators: The project approach in the early years*. Teachers College Press.
- Kareepadath, V. P. (2018). Critical pedagogy in practice: A case study from Kerala, India. *Journal of Pedagogy*, 9(2), 33-54. DOI 10.2478/jped-2018-001.
- López-Gopar, M. E. (2014). Teaching English critically to Mexican children. *Elt Journal*, 68(3), 310-320.

- López-Gopar, M. E., Clemente, Á., & Sughrua, W. (2011). Co-creating identities through identity texts and dialogical ethnography. *Writing and Pedagogy*, 3(2), 241-264.  
<https://doi.org/10.1558/wap.v3i2.241>
- López-Gopar, M. E. (2016). Decolonizing primary English language teaching (Vol. 12). *Multilingual Matters*.
- López-Gopar, M., Morales, N.J., & Jimenez, A.D. (2020). A critical thematic unit in a teaching praxicum: Health issues and plurilingualism in the “English” classroom. In S.M.C. Lau, & V.S. Van (Eds.), *Plurilingual pedagogies: Critical and creative endeavors for equitable language in education* (pp. 97-113). Springer.
- Meier, D. R., & Stremmel, A. J. (2010). Reflection through narrative: The power of narrative inquiry in early childhood teacher education. *Journal of Early Childhood Teacher Education*, 31(3), 249–257. DOI:10.1080/10901027.2010.500538
- Mercuri, S., & Musanti, M. (2021). *La enseñanza en el aula bilingüe: Content, language, and biliteracy*: Filadelfia, MA: Caslon, Inc.
- Morse, J. M., Bowers, B. J., Charmaz, K., Corbin, J., Stern, P. N., & Clarke, A. E. (2016). *Developing grounded theory: The second generation* (Vol. 3). Routledge.
- New Zealand Ministry of Education. (2017). Te whāriki: He whāriki mātauranga mō ngā mokopuna o Aotearoa—Early childhood curriculum. Retrieved from <https://education.govt.nz/assets/Documents/EarlyChildhood/ELSTeWharikiEarlyChildhoodCurriculumENGWeb.pdf>
- NAEYC (2020). Developmentally Appropriate Practice (DAP). Position Statement. Washington, DC: NAEYC. [https://www.naeyc.org/sites/default/files/globally-shared/downloads/PDFs/resources/position-statements/dap-statement\\_0.pdf](https://www.naeyc.org/sites/default/files/globally-shared/downloads/PDFs/resources/position-statements/dap-statement_0.pdf)
- NAEYC. (2019). Advancing equity in early childhood education. Position Statement. Washington, DC: NAEYC. <https://www.naeyc.org/resources/position-statements/equity>
- Nyland, B., & Alfayez, S. (2012). Learning Stories—crossing borders: Introducing qualitative early childhood observation techniques to early childhood practitioners in Saudi Arabia. *International Journal of Early Years Education*, 20(4), 392-404.  
<https://doi.org/10.1080/09669760.2012.743097>
- Ong, F., & McLean, J. (Eds.). (2015). *California preschool program guidelines*. California Department of Education.
- Pack, J. (2016). Learning Stories. *Teaching Young Children*. NAEYC. 9(2). 19-21.  
<https://www.naeyc.org/resources/pubs/tyc/dec2015/learning-stories>
- Rico, A. P., & Janot, J. B. (2021). Children’s right to play and its implementation: A comparative, international perspective. *NAER: Journal of New Approaches in Educational Research*, 10(2), 279-294.
- Saldaña, J. (2021). Coding techniques for quantitative and mixed data. *The Routledge Reviewer’s Guide to Mixed Methods Analysis*, 151-160.
- Seitz, H. (2023). Authentic Assessment: A Strengths-Based Approach to Making Thinking, Learning, and Development Visible. *YC Young Children*, 78(1), 6-11.
- Sisk-Hilton, S., & Meier, D. R. (2016). *Narrative inquiry in early childhood and elementary school: Learning to teach, teaching well*. Taylor & Francis.
- Southcott, L. H. (2015). Learning Stories: Connecting parents, celebrating success, and valuing children’s theories. *Voices of Practitioners*, 10 (Winter), 34-50.  
[https://www.naeyc.org/sites/default/files/globally-shared/downloads/PDFs/resources/pubs/VOP\\_Winter%202015-compressed%20file%20%281%29.pdf](https://www.naeyc.org/sites/default/files/globally-shared/downloads/PDFs/resources/pubs/VOP_Winter%202015-compressed%20file%20%281%29.pdf)
- Souto-Manning, M., & Martell, J. (2016). *Reading, writing, and talk: Inclusive teaching strategies for diverse learners, K–2*. Teachers College Press.
- Van Leeuwen, T. (2017). Multimodal literacy. *Metaphor*(4), 17-23.

White, A. (2019). Engaging families through observation and reflection: a collaborative approach to making learning visible. *Journal of Children and Poverty*, 25(1), 45–56.  
<https://doi.org/10.1080/10796126.2019.1566695>



**Dichos y adivinanzas: Herramientas culturales que impulsan el éxito académico y el  
desarrollo cognitivo en el aula bilingüe**

**Laura Cardona Berrio  
María Guadalupe Arreguín**

**University of Texas at San Antonio**

## Resumen

La educación bilingüe de doble inmersión tiene como meta el éxito académico por medio del desarrollo del bilingüismo y las capacidades socioculturales, motivo por el cual herramientas culturales como los dichos y las adivinanzas tienen mucho que aportar. Ambos elementos de la tradición oral existen en diferentes lenguajes y culturas, reflejando la sabiduría tradicional y el entorno social de la época. Los dichos y las adivinanzas pueden ser usados en el aula de clase para el desarrollo del pensamiento crítico de niños y niñas bilingües en torno a la propia y otras culturas, además de su potencial para el aprendizaje interdisciplinario. El presente artículo ofrece diferentes estrategias para integrar los dichos y adivinanzas en el aula bilingüe, facilitando el desarrollo del lenguaje, la conexión con los contenidos de la clase y la integración de los saberes culturales de los estudiantes y sus familias con el ámbito académico.

*Palabras clave:* educación bilingüe, dichos, adivinanzas, destrezas socioculturales, pedagogías culturalmente sostenibles, desarrollo cognitivo.

## **Los dichos y las adivinanzas: Herramientas culturales que impulsan el éxito académico y el desarrollo cognitivo en el aula bilingüe**

Los programas bilingües de doble inmersión incluyen elementos que giran en torno a tres metas principales: el éxito académico, el bilingüismo/bialfabetismo, y las aptitudes o capacidades socioculturales (Lindholm-Leary, 2001). Las aptitudes socioculturales le permiten al individuo navegar y analizar de manera crítica su propia cultura y la de los demás. Esta capacidad se logra mediante oportunidades planeadas para comparar, contrastar, y discernir las prácticas, lenguaje y tradiciones de diversas culturas. En el presente artículo, las autoras proponen el uso intencional de dichos y adivinanzas dentro de programas de doble inmersión para promover las destrezas socioculturales, y el desarrollo lingüístico y académico en dos idiomas. Tomando como base el marco teórico de las pedagogías culturalmente sostenibles, afirmamos que, al incorporar estos recursos, los docentes incentivan el desarrollo cognitivo en niños y niñas bilingües en todas las áreas de aprendizaje. Asimismo, estas pedagogías posibilitan prácticas de translenguaje como acceso al mundo cultural de los estudiantes; contextualizando las experiencias de aprendizaje en el marco de una educación culturalmente sostenible para los estudiantes Latinos. La educación culturalmente sostenible es aquella que se enfoca en preservar, incentivar y conservar la riqueza lingüística, los procesos de alfabetización y el pluralismo cultural de comunidades históricamente oprimidas (Alim & Paris, 2017). Para ilustrar lo anterior presentamos una serie de actividades de fácil implementación.

Los recursos de la cultura oral como los dichos y las adivinanzas pueden ser herramientas pedagógicas para promover procesos de pensamiento en el aula bilingüe y alejarse de puntos de vista basados en deficiencia cultural. Desde esta perspectiva, los estudiantes que se encuentran en el proceso de aprender inglés como segundo idioma son asociados con bajos niveles intelectuales, asumiendo que sus limitaciones en un área se extienden a otras áreas de su capacidad de aprendizaje (Gay, 2018). Los investigadores sugieren, por ejemplo, que los futuros docentes pueden enriquecer la enseñanza de las ciencias naturales, integrando el conocimiento que los estudiantes traen consigo a las aulas usando recursos culturales como los dichos y las adivinanzas (Arreguín-Anderson & Ruiz-Escalante, 2018).

Los estudiantes Latinos poseen elaborados repertorios lingüísticos (Arreguín-Anderson et al., 2018) que pueden ser estimulados por medio de adivinanzas y dichos procedentes de sus entornos culturales. Según el National Center for Education Statistics (NCES, 2022) el porcentaje de estudiantes que están aprendiendo inglés como su segundo idioma en escuelas públicas estadounidenses está incrementando; pasando de un porcentaje de 9.2 o 4.5 millones en el otoño de 2010 a un porcentaje de 10.2 o 5.1 millones en el otoño de 2019. Motivo por el cual la implementación de estrategias culturalmente relevantes se hace cada vez más necesaria en un contexto educativo en el cual los estudiantes con orígenes lingüísticos y culturales distintos no han tenido las mismas oportunidades de triunfar en comparación con los estudiantes anglosajones (Gay, 2018). Aunado a lo anterior, la diversidad étnica, cultural y racial es una característica fundamental de las escuelas de Estados Unidos a nivel nacional (Howard, 2018).

## **Las pedagogías culturalmente sostenibles**

Al presentar los dichos y las adivinanzas como herramientas culturales pedagógicas es importante enfatizar su valor en el ámbito cognitivo y académico. Es decir, estos recursos literarios promueven el uso de activos culturales o lo que se conoce como pedagogías culturalmente sostenibles. Estas pedagogías desafían los enfoques que consideran los lenguajes, procesos de alfabetización, y culturas de las comunidades afrodescendientes y otras minorías como deficientes (Paris & Alim, 2014). Al respecto, Paris (2012) propuso las pedagogías culturalmente sostenibles como una alternativa para preservar y nutrir las culturas, lenguajes, y alfabetizaciones de comunidades que han sido consideradas como minoritarias en el ámbito escolar.

En este artículo, extendemos la discusión de pedagogías sostenibles para incluir el aspecto de la riqueza cultural de las comunidades latinas, especialmente lo que Yosso (2005) llama “el capital lingüístico” o conocimientos y destrezas intelectuales y sociales adquiridas por medio de experiencias comunicativas y de tradiciones orales. Este capital lingüístico incluye los cuentos, las parábolas, y los proverbios o dichos, además de las adivinanzas. Al conectar estos recursos lingüísticos como los dichos y las adivinanzas con el currículo de las aulas bilingües de doble inmersión, nos parece relevante enfatizar la idea de que, al ser dinámica, toda expresión cultural, es peculiar al entorno en el cual surge. Así sucede con los dichos y las adivinanzas que cambian y se adaptan a los tiempos, las circunstancias y a los usos lingüísticos de quienes las utilizan como parte de su repertorio.

### **Los dichos**

Los dichos son proverbios, adagios, o máximas que se utilizan para ilustrar un punto o dar un consejo, ya que son un reflejo de la sabiduría de la comunidad y se basan en experiencias de vida (Rodríguez-Rabin, 2005). Los dichos representan una estructura lingüística que transmite creencias y valores compartidos. La fuente de inspiración puede ser el trabajo, las labores del campo, o la naturaleza (Espinoza-Herold, 2007). En el plano familiar, los dichos generalmente contienen una lección. Una característica general es la conexión con situaciones que requieren atención inmediata. En los dichos se encapsulan de forma abreviada los fondos de conocimiento transmitidos de generación en generación y aunque no existe consenso respecto a la diferencia entre un dicho y un refrán, lo que sí queda claro es que ambos representan estructuras lingüísticas con valor pedagógico.

La historia de los dichos es difícil de rastrear. Se podrían encontrar indicios de este tipo de herramientas lingüísticas en las tradiciones orales de civilizaciones antiguas tanto de Egipto como de Mesopotamia (Paredes, 1982). En la mayoría de los casos, el origen de los mismos se pierde en el pasado y lo que ocasionalmente escuchamos son versiones peculiares al contexto en el que surgen, es decir, el mensaje se mantiene, aunque varía el lenguaje y los elementos que los conforman.

Varios autores han abordado el tema de los dichos de forma sistemática. Por ejemplo, José María Iribarren, documentó al menos 671 ejemplos de dichos y refranes utilizados en España y Keenan (2019) recopiló dichos en México y Latinoamérica. Ambos autores agrupan los dichos de manera temática y explican su uso y orígenes. En el ámbito académico, Sánchez et al. (2010) han explorado el uso de dichos y refranes como herramientas culturales para establecer comunicación entre el hogar y la escuela. Al respecto, Sánchez (2009) propone que los dichos representan la sabiduría de la comunidad y sirven como herramienta para promover el alfabetismo de niños y



adultos, ya que acentúan el uso de lenguaje figurado en el cual se espera que el oyente descifre el significado un mensaje o consejo representado por medio de objetos, imágenes, o acciones.

**Primera sugerencia: Los dichos como herramienta para el análisis de las conexiones entre los idiomas en programas de doble inmersión**

Uno de los aspectos más complejos de un lenguaje es el uso de expresiones metafóricas y frases que hacen alusión a referentes culturales muy específicos. Tal es el caso de la mayoría de los dichos. Para los estudiantes bilingües es de suma importancia adquirir destrezas que les permitan detectar, comprender, y hablar de las similitudes y diferencias entre los lenguajes (Escamilla et al., 2014). Este concepto se conoce como metalenguaje y en las aulas de doble inmersión permite que los estudiantes identifiquen y analicen las conexiones entre los idiomas en los que aprenden. Escamilla et al. (2014) presenta una estrategia conocida como *Así se dice*, la cual enfatiza la distinción entre traducciones literales y traducciones conceptuales. Por ejemplo, al analizar y discutir el significado de dichos como “Al que madruga, Dios le ayuda”, los estudiantes se dan cuenta de que una traducción literal no tendría sentido. En inglés, no hay una expresión equivalente (If you wake up early, God helps you). Es más común utilizar la frase “The early bird gets the worm”.

Como plan estratégico e intencional, es importante el uso de ambas expresiones durante los segmentos del día/semana/materia asignados a cada idioma (ver Tabla 1). Se sugiere iniciar la semana con una introducción de los dichos, inicialmente proporcionando uno de ellos. Por ejemplo, al introducir la versión en español (al que madruga, Dios le ayuda), la pregunta para los estudiantes sería: “¿Cómo se dice este dicho en inglés?” [What is the equivalent of this saying in English?]. Esto abre la puerta para que, por medio del diálogo, se llegue a la conclusión de que, dada la naturaleza de cada idioma, es posible identificar una frase equivalente, similar, o incluso podemos concluir que ciertos dichos pueden no existir como tales en el otro idioma.

**Tabla 1**

*Distribución y uso de dichos de acuerdo con el lenguaje del día*

<b>Lunes</b>	<b>Martes</b>	<b>Miércoles</b>	<b>Jueves</b>	<b>Viernes</b>
Al que madruga, Dios le ayuda.	The early bird gets the worm.	Al que madruga, Dios le ayuda.	The early bird gets the worm.	Al que madruga, Dios le ayuda.

*Nota.* Esta tabla muestra un ejemplo de cómo apoyar el uso de dos idiomas por medio de dichos.


La idea es que los docentes busquen oportunidades para utilizar los dichos, tanto en inglés, como en español durante la semana en situaciones apropiadas. Asimismo, es recomendable que los dichos se programen a lo largo del año como parte de un plan que permita no solo identificar aspectos que son únicos en cada lenguaje, sino casos de cognados falsos y peculiaridades de cada idioma, porque para alcanzar la potencialidad de las prácticas de translenguaje como agente de transformación en justicia social, el translenguaje debe ser integrado con un análisis crítico del lenguaje (Christoffersen & Regalado, 2021) que puede fortalecerse por medio de los dichos.

## Segunda sugerencia: Libros de dichos de nuestra clase

Sánchez (2009) propone que los dichos se utilicen como una herramienta cultural con aplicaciones literarias y como puente entre el aula de clases y el hogar, al tiempo que se invita e involucra a los padres como colaboradores en el aprendizaje de sus hijos. Por ejemplo, tomando como base “Mi Primer Libro de Dichos” de Ralfka González y Ana Ruiz (1995), es posible extender la lectura enviando a casa la invitación para que los padres compartan un dicho, lo ilustren con sus hijos, y proporcionen una descripción breve de su significado (ver tabla 2).

### Tabla 2.

*Formato para recopilar dichos de las familias de los estudiantes*

Ejemplo	Modelo con secciones a seguir
	<p>Dicho:</p>  <p>Significado:</p>  <p>¿Qué te recuerda? ¿De quién lo aprendiste?</p>

*Nota.* La integración de la ilustración y la escritura posibilita el diálogo y el intercambio cultural a través de los dichos.

Para los niños en nivel preescolar, se puede compartir esta tarea con los padres para que juntos, padres e hijos, lleven a cabo las ilustraciones. En el caso de los niños de segundo grado en adelante, puede planearse como un proyecto de investigación en el cual se combina la recopilación de datos con las tradiciones orales y la visión de nuestros estudiantes como autores de sus propios libros. Asimismo, se generan piezas literarias que, al integrarse a la biblioteca del aula de clases, permiten no solo que los estudiantes vean aspectos de su vida reflejados en el currículo escolar, sino que desarrollen una perspectiva positiva de las expresiones culturales provenientes de otros compañeros.

## Las adivinanzas

Las adivinanzas forman parte de la tradición oral y pueden ser categorizadas dentro de los géneros lúdicos que se enmarcan en un código cultural (Velasco, 2019). Las adivinanzas son juegos en los cuales se invita a los niños y niñas a encontrar una palabra siguiendo determinadas pistas para encontrar la respuesta al enigma (Buchoff, 1996; Padak & Rasinski, 2008). Otros autores las definen como juego de palabras que integran diferentes recursos retóricos, léxicos y métricos para crear acertijos retando la imaginación (Miaja de la peña, 2005; Velasco, 2019). En su elaboración lingüística pueden implicar explicaciones detalladas, enumeraciones inconclusas, y paradojas que

requieren procesos de pensamiento para su resolución (Velasco, 2019). Usualmente, las adivinanzas contienen elementos descriptivos alrededor de un tema y observaciones sobre este (Georges & Dundes, 1963) lo que las hace una estrategia interesante para fortalecer el desarrollo del vocabulario.

¿Podríamos preguntar de donde surgieron las adivinanzas? La estructura de pregunta y respuesta que contienen las adivinanzas ha estado presentes en civilizaciones antiguas y se han conservado y reinventado gracias a su transmisión oral (Beutler, 1961). Las adivinanzas reflejan configuraciones ancestrales de pensamiento que mantienen aspectos esenciales en muchas culturas (De Granda, 1974). Por ejemplo, las adivinanzas de países Iberoamericanos tienen sus orígenes en formas adivinatorias de las tradiciones indígenas y españolas (De la Peña, 2005). Siendo los enigmas y acertijos sus precursores en la herencia española y los zazaniles de la tradición cultural indígena mexicana (De la Peña, 2004). Así pues, las adivinanzas tienen sus orígenes en diferentes culturas como la griega, latina, celta, quiché y maya (Miaja de la Peña, 2005) en las cuales pueden rastrearse tradiciones orales que buscan develar misterios y retar al interlocutor por medio de preguntas.

Algunos autores resaltan la potencialidad de las adivinanzas para estimular el pensamiento creativo debido a los procesos de pensamiento que implican como la resolución de analogías, el análisis de metáforas y la asociación de ideas (Miaja de la Peña, 2005; Montalvo Castro, 2011). Los maestros mexicanoamericanos han implementado las adivinanzas como un recurso literario valioso para presentar y estudiar conceptos científicos (Arreguín-Anderson & Ruiz-Escalante, 2018). Velasco (2019) ha utilizado las adivinanzas como recurso importante en la enseñanza del español como segunda lengua y el análisis de problemáticas sociales. Las adivinanzas han sido utilizadas también para estimular la conciencia ambiental, pensamiento crítico y creativo, habilidades colaborativas, numéricas y cognitivas (Mokaya & Kebaya, 2022). Otras investigaciones han concluido que las adivinanzas pueden proporcionar conocimiento sobre la cultura de la época al estar enmarcadas en costumbres y perspectivas culturales (Ben-Amos, 1976; Lizaxan, 2021).

Algunas ventajas de usar adivinanzas en el aula de clase es que pueden conectarse con el repertorio cultural y lingüístico de los estudiantes (Arreguín-Anderson & Ruíz- Escalante, 2018). En segundo lugar, Montalvo-Castro (2011) resalta algunos de los componentes de las adivinanzas que propician la estimulación del pensamiento creativo, como la comparación, la descripción, la narración, las semejanzas, los colmos, las preguntas, los acertijos y los actos. Algunos ejemplos de adivinanzas que usan descripción son: “Tiene cuatro patas y no puede andar. Tiene cabecera y no sabe hablar.” Respuesta: la cama (Beisner, 2020, párr. 7). “Lo que no consiguen fuerza ni destreza. Para mí es muy fácil, toda una simpleza. Pocos me respetan: no tienen derecho. Pues sin mí estarían sin casa ni lecho” Respuesta: La llave (Beisner, 2020, párr. 10). “Cuanto más profunda es Tú mucho menos la ves.” Respuesta: la oscuridad (Beisner, 2020, párr. 35). Otro aspecto interesante que ofrecen las adivinanzas es la comprensión del lenguaje en ámbitos poéticos y cotidianos. El primero se refiere a la implementación y comprensión de figuras retóricas como el símil, la metonimia, la metáfora, entre otros, y el segundo hace alusión al entendimiento del lenguaje al cual están expuestos los estudiantes en la vida cotidiana (Miaja de la Peña, 2005). Así pues, el uso de adivinanzas en la práctica educativa puede ser un puente para integrar la cultura y el lenguaje

de los estudiantes en el marco de los contenidos académicos, la estimulación del pensamiento creativo y la comprensión del lenguaje en sus dimensiones poéticas y cotidianas.

### **Primera sugerencia: Las adivinanzas como estrategia para apoyar la bilingüedad de niños y niñas bilingües**

Velasco (2019) enfatiza que el aprendizaje del idioma se puede fortalecer, impulsar y posibilitar por medio de los géneros de la tradición oral como la adivinanza. Una aplicación de este recurso en el aula de clase puede ser invitar a maestros, maestras, estudiantes, madres y padres a crear adivinanzas alrededor de palabras y tradiciones en su lengua nativa para apoyar el lenguaje oral y escrito de los niños y las niñas en programas de educación bilingüe. La adivinanza tiene una estructura que posibilita el desarrollo cognitivo. Según Miaja de la Peña (2005) sus elementos constitutivos son: enunciados de introducción, orientación, desorientadores y elementos de conclusión. Veamos algunos ejemplos con adivinanzas de la Tradición Oral:

#### **Enunciados de introducción**

Son los que invitan a iniciar el juego de ingenio, estos pueden ser:

- Estimular a participar en el reto: “Adivina quién soy”, “Adivina adivinador, te invito a adivinar”
- Introducir una pregunta: “¿Qué es qué será...?”, “¿Cuál es el único...?”
- Brindar una ubicación espacial: “En el alto vive...”, “Fui a la plaza...”
- Especificar una característica alrededor del tema de la adivinanza: “Tiene dientes y no come...”, “Es rojo, amarillo y verde...”

#### **Enunciados de orientación**

Brindan pistas al jugador y se encuentran integrados en la adivinanza (Miaja de la Peña, 2005), algunos ejemplos son:

- La fragmentación de palabras: “¿Quieres té? ¡Pues toma té!” ¿Sabes ya qué fruto es? Respuesta: el tomate.
- La inclusión del sustantivo a adivinar dentro del texto de la adivinanza: “Todos me buscan para descansar si ya te lo he dicho no lo pienses más.” Respuesta: La silla.

#### **Enunciados desorientadores**

Buscan retar al jugador y poner obstáculo para encontrar la respuesta usando elementos como la personificación, la animalización, y el símil entre otros (Miaja de la Peña, 2005). Por ejemplo: “Carezco de aviones y también de pistas, pero llené el aire de paracaidistas” Respuesta: el diente de león (Beisner, 2020, párr. 85).

#### **Elementos de conclusión**

Concluyen las adivinanzas alertando al jugador del grado de dificultad del reto (Miaja de la Peña, 2005) por ejemplo: resuelve este reto, no pares de adivinar, si te distraes un poco no lo podrás adivinar. Con los elementos estructurales de la adivinanza maestros, maestras, estudiantes y miembros de la familia pueden crear adivinanzas para apoyar la bilingüedad en el aula bilingüe. Para este fin se puede usar la siguiente guía creativa en la tabla número tres:

**Tabla 3.***Guía creativa para preservar aspectos culturales por medio de adivinanzas*

Pregunta guía	Elemento de introducción	Elementos orientadores	Elementos desorientadores
¿Qué palabra o práctica alrededor de su lenguaje y cultura quisiera utilizar para crear la adivinanza?	¿Qué es? ¿Qué será?	La palabra que si digo “fu” dos veces, la voy a encontrar	es más que una palabra, no es una actividad
Ejemplo: Quisiera que los niños y niñas aprendieran sobre un tipo de comida del occidente de África llamada fufu.			

En esta sugerencia, los participantes deben elegir el tema sobre el cual quieren crear la adivinanza y posteriormente integrar los elementos de introducción, elementos orientadores, y elementos desorientadores en las lenguas nativas de los estudiantes. La creación de adivinanzas con maestras, maestros, niños, niñas, padres y madres brindan varias posibilidades de aprendizaje. En primer lugar, es una manera de valorar la lengua nativa de cada uno de ellos como un medio legítimo de conocimiento. En segundo lugar, este tipo de adivinanzas permiten el aprendizaje colectivo sobre las culturas y tradiciones de los miembros de la comunidad educativa.

### **Segunda sugerencia: Las adivinanzas como estrategia para introducir distintas temáticas en el aula bilingüe**

Arreguín-Anderson y Ruiz-Escalante (2018), resaltan la utilidad de las adivinanzas en el marco de una pedagogía de la ciencia culturalmente relevante para estudiantes de educación primaria. Esta sugerencia puede ser implementada al inicio de la clase para introducir la temática de clase. Por ejemplo, se puede iniciar la sesión con una adivinanza relacionada con el tema de la clase. Digamos que en clase de geografía se va a introducir el tema de los ríos y sus nacimientos. La clase podría iniciar con una adivinanza como esta:

Tiene lecho y nunca duerme.

Tiene boca y nunca habla.

Se puede incentivar a los estudiantes a encontrar la respuesta al inicio de la clase, durante la clase a lo largo de la exploración del tema. Los maestros y maestras también pueden buscar adivinanzas en la lengua nativa de los estudiantes para apoyar el desarrollo del lenguaje en su primera y segunda lengua, como se ilustra en la tabla número cuatro.

**Tabla 4.**

*Ejemplo del uso de adivinanzas en conexión con el tema de la clase*

Temática	Adivinanza	Idioma
Los ríos	Tiene lecho y nunca duerme. Tiene boca y nunca habla.	Español
	Whatever runs, but never walks, Often murmurs, never talks, Has a bed, but never sleeps, Has a mouth, but never eats.	Inglés
<i>Nota.</i> Las adivinanzas pueden usarse en cualquier momento de la clase para dinamizar e incentivar el uso de dos lenguajes.		

También se sugiere invitar a los niños, niñas, padres y madres a compartir adivinanzas relacionadas con el tema de la clase y generar conversaciones alrededor de la temática partiendo de sus adivinanzas. Recapitulando los pasos para la implementación de esta estrategia, los maestros y maestras deben elegir el tema que quieren introducir, luego buscar o crear adivinanzas relacionadas con el tema en el lenguaje nativo y la segunda lengua de los estudiantes y finalmente integrar la adivinanza en el momento de la clase que consideren apropiado para dinamizar, promover el bilingüismo y estimular la curiosidad de los estudiantes.

### **Conclusión**

Los dichos y las adivinanzas representan herramientas congruentes con la implementación de pedagogías sustentables que fomentan la adquisición de aptitudes y destrezas socioculturales. Los beneficios académicos y cognitivos son palpables en un aula de doble inmersión ya que además de impulsar el desarrollo del pensamiento complejo, proporcionan oportunidades para conectar con las diferentes materias y tienden un puente con la identidad cultural y lingüística del estudiante.

Actualmente las escuelas y otras instituciones continúan funcionando bajo una lógica anglosajona blanca (Cheruvu et al., 2015; Nganga, 2015); en otras palabras, niños y niñas que no son blancos, cuya lengua nativa no es inglés y que no pertenecen a la clase media, no son incluidos en el currículo en muchos casos. Los ejemplos presentados en relación con materias como artes del lenguaje y ciencia son herramientas culturales que pueden promover y apoyar el éxito académico de niños y niñas bilingües con orígenes culturalmente diversos.

Los dichos y las adivinanzas representan un capital lingüístico y cultural que sitúa a los estudiantes como poseedores de destrezas comunicativas de alto valor y relevancia en el ámbito académico. Las pedagogías culturalmente sostenibles crean un ambiente en el cual aprovechamos el repertorio de destrezas relacionadas con estas herramientas culturales. La memorización, el uso de lenguaje figurativo, el manejo de vocabulario especializado, por ejemplo, son destrezas valiosas que la comunidad Latina ha transmitido de generación en generación por medio de los dichos y

las adivinanzas. Desde la edad pre-escolar, los niños disfrutaban de los aspectos humorísticos del lenguaje y muy pronto se involucran no sólo en el uso pedagógico de estas herramientas culturales, sino en su difusión al incorporarlas a las conversaciones de la vida diaria. Esta es sin duda, la meta que nos asegurará el uso continuo de estas valiosas herramientas pedagógicas de la tradición oral en las generaciones presentes y futuras.

## Referencias

- Alim, H. S., & Paris, D. (2017). What is culturally sustaining pedagogy and why does it matter. *Culturally sustaining pedagogies: Teaching and learning for justice in a changing world*, 1, 24.
- Arreguín-Anderson, M. G., Salinas-Gonzalez, I., & Alanis, I. (2018). Translingual play that promotes cultural connections, invention, and regulation: A LatCrit perspective. *International Multilingual Research Journal*, 12(4), 273–287. <https://doi.org/10.1080/19313152.2018.1470434>
- Arreguín- Anderson, M.G., & Ruiz-Escalante, J. A. (2018). *Adivinanzas* and *dichos*: Preparing prospective educators to teach science by incorporating culturally responsive tools. *Journal of Latinos and Education*, 17(1), 84–91. <https://doi.org/10.1080/15348431.2016.1257427>
- Beisner, M. (2020). *El libro de las adivinanzas*. Ediciones Era.
- Ben-Amos, D. (1976). Solutions to riddles. *The journal of American Folklore*, 89(352), 249-254. <https://doi.org/10.2307/539691>
- Beutler, G. (1961). Adivinanzas de tradición oral en Nariño (Colombia). *Thesaurus: boletín del Instituto Caro y Cuervo*, 16(2), 367-451. [http://bibliotecadigital.caroycuervo.gov.co/292/1/TH\\_16\\_002\\_087\\_0.pdf](http://bibliotecadigital.caroycuervo.gov.co/292/1/TH_16_002_087_0.pdf)
- Buchoff, R. (1996). Riddles: Fun with Language across the Curriculum. *The Reading Teacher*, 49(8), 666–668. <http://www.jstor.org/stable/20201691>
- Cheruvu, R., Souto-Manning, M., Lencl, T., & Chin-Calubaquib, M. (2015). Race, isolation, and exclusion: What early childhood teacher educators need to know about the experiences of pre-service teachers of color. *The Urban Review*, 47(2), 237–265. <https://doi.org/10.1007/s11256-014-0291-8>
- Christoffersen, K., & Regalado, K. (2021). Toda lengua es válida aquí en esta clase: Translanguaging pedagogy and critical language awareness in sociolinguistics courses on the US-Mexico border. *Journal of Bilingual Education Research and Instruction*, 23(1). 45-71. [https://scholarworks.utrgv.edu/cgi/viewcontent.cgi?article=1062&context=wls\\_fac](https://scholarworks.utrgv.edu/cgi/viewcontent.cgi?article=1062&context=wls_fac)
- De la Peña, M. T. M. (2004). Del divinaré a las mirabillia. La adivinanza en la tradición folklórica mexicana. In *Actas del XIV Congreso de la Asociación Internacional de Hispanistas: New York, 16-21 de Julio de 2001* (pp. 381-388). Juan de la Cuesta. [https://cvc.cervantes.es/literatura/aih/pdf/14/aih\\_14\\_1\\_044.pdf](https://cvc.cervantes.es/literatura/aih/pdf/14/aih_14_1_044.pdf)
- De la Peña, M. T. M. (2005). De los zazaniles y quisicosas en Fray Bernardino de Sahagún, a la adivinanza actual en México. *Prolija Memoria. Primera época*, 1(2), 117-135. <http://hdl.handle.net/10391/1114>
- Escamilla, K., Hopewell, S., Butvilofsky, S., Sparrow, W., Soltero-González, L., Ruiz-Figueroa, O., & Escamilla, M. (2014). *Biliteracy from the start: Literacy squared in action* (pp. 25-26). Caslon Publishing.
- Espinoza-Herold, M. (2007). Stepping beyond sí se puede: Dichos as a cultural resource in mother-daughter interaction in a Latino family. *Anthropology & Education Quarterly*, 38(3), 260–277. <https://doi-org.libweb.lib.utsa.edu/10.1525/aeq.2007.38.3.260>
- Gay, G. (2018). *Culturally responsive teaching: Theory, research, and practice*. Teachers College Press.
- Georges, R. A., & Dundes, A. (1963). Toward a structural definition of the riddle. *The Journal of American Folklore*, 76(300), 111–118. <https://doi.org/10.2307/538610>



- Gonzalez, R. & Ruiz, A. (1995). *Mi primer libro de dichos*. Children's Books Press.
- Granda, G. D. (1974). Adivinanzas de tradición oral en Iscuandé (Nariño, Colombia). *Revista De Dialectología y Tradiciones Populares*, 30(1), 223.  
<https://login.libweb.lib.utsa.edu/login?url=https://www.proquest.com/scholarly-journals/adivinanzas-de-tradición-oral-en-iscuandé-nariño/docview/1301791320/se-2>
- Harris, P., Brock, C. H., McInnes, E., Diamond, A., Neill, B., Carter, J., & Giannakis, E. (2020). Co-constructing culturally sustaining practices for fostering young children's literacy in Fiji. *Journal of Research in Childhood Education*, 34(1), 127–152.  
<https://doi.org/10.1080/02568543.2019.1692105>
- Howard, T. C. (2018). Capitalizing on culture: Engaging young learners in diverse classrooms. *Young Children*, 73(2), 24–33. <https://www.jstor.org/stable/26558914>
- Iribarren, J. M. (2013). *El porqué de los dichos; sentido, origen y anécdota de los dichos, modismos y frases proverbiales de España, con otras muchas curiosidades*. Ariel.
- Keenan. (2019). *¡Dichos!: the wit and whimsy of Spanish sayings* (1st ed.). University of Texas Press.
- Lindholm-Leary, K. J. (2001). *Dual language education* (Vol. 28). Multilingual Matters.
- Lizaxan, I. (2021). Development of logical thinking of young children in folk pedagogy through riddles. *Innovative Technologica: Methodical Research Journal*, 2(03), 11-13.  
<https://libraryh3lp.com/go/89YTE?t=3Bpr89sJ9rsTOpNlcZ9lem>
- Miaja de la Peña, M. T. (2005). La adivinanza: Sentido y pervivencia. *Acta Poética*, 26(1–2).  
<https://doi.org/10.19130/iifl.ap.2005.1-2.178>
- Mokaya, G. K., & Kebaya, C. (2022). Integrating riddles as instructional resource in the Competency-Based Curriculum for Early Years Education in Kenya . *Research Journal in Advanced Humanities*, 3(1). <https://doi.org/10.58256/rjah.v3i1.760>
- Montalvo Castro, J. (2011). Adivinanzas audiovisuales para ejercitar el pensamiento creativo infantil= Audiovisual Riddles to Stimulate Children's Creative Thinking. *Adivinanzas audiovisuales para ejercitar el pensamiento creativo infantil= Audiovisual Riddles to Stimulate Children's Creative Thinking*, 1-16. <https://doi.org/10.3916/C36-2011-03-03>
- National Center for Education Statistics. (2022). English Learners in Public Schools. *Condition of Education*. U.S. Department of Education, Institute of Education Sciences. Retrieved from <https://nces.ed.gov/programs/coe/indicator/cgf>.
- Nganga, L. (2015). Culturally responsive and anti-biased teaching benefits early childhood pre-service teachers. *Journal of Curriculum and Teaching*, 4(2), p1.  
<https://doi.org/10.5430/jct.v4n2p1>
- Padak, N., & Rasinski, T. (2008). The games children play. *The Reading Teacher*, 62(4), 363-365.  
<https://doi-org.libweb.lib.utsa.edu/10.1598/RT.62.4.11>
- Paris, D., & Alim, H. S. (2014). What are we seeking to sustain through culturally sustaining pedagogy? A loving critique forward. *Harvard Educational Review*, 84(1), 85–100.  
<https://doi-org.libweb.lib.utsa.edu/10.17763/haer.84.1.9821873k2ht16m77>
- Paris, D., & Alim, H. S. (Eds.). (2017). *Culturally sustaining pedagogies: Teaching and learning for justice in a changing world*. Teachers College Press.
- Rodriguez-Rabin, R. (2005). Dichos. In S. Oboler & D. J. Gonzalez (Eds.), *The Oxford Encyclopedia of Latinos and Latinas in the United States* (pp. 10). New York, NY: Oxford University Press.
- Sanchez, C. (2009). Learning About Students' Culture and Language Through Family Stories

- Elicited by Dichos. *Early Childhood Education Journal*, 37(2), 161–169.  
<https://doi.org/10.1007/s10643-009-0331-2>
- Sánchez, C., Plata, V., Grosso, L., & Leird, B. (2010). Encouraging Spanish-Speaking Families' Involvement Through Dichos. *Journal of Latinos and Education*, 9(3), 239–248.  
<https://doi.org/10.1080/15348431003761216>
- Velasco, H. (2019). Saber y adivinar. Las adivinanzas como juego de la criptificación y el desvelamiento. *Boletín de Literatura Oral*, 85–118. <https://doi.org/10.17561/blo.vextrai2.7>
- Yosso TJ (2005) Whose culture has capital? A critical race theory discussion of community cultural wealth. 8(1). *Race Ethnicity and Education*: 69–91.  
DOI: [10.1080/1361332052000341006](https://doi.org/10.1080/1361332052000341006)



***“But I don’t want to speak English”*: Examining the intersection of Social Identity, Agency, and Language Investment in Early Childhood Bilingual Education**

**Giselle Martinez Negrette**  
**University of Illinois Urbana-Champaign**

***“But I don’t want to speak English”*: Examining the intersection of Social Identity, Agency,  
and Language Investment in Early Childhood Bilingual Education**

**Abstract**

This ethnographic case study highlights the voice and interactions of Xitlali, a five-year-old, minoritized speaker in a dual language (DL) (English/Spanish) program, who employs silence to resist, enact, and negotiate her social identity in the program. Using Norton’s (1995) theories of social identity and investment, I critically examine the interwoven nature of *language development and social identity as they are* brought together through various social processes and linguistic interactions in a bilingual learning setting. Two overarching questions guide this study: 1) What is Xitlali’s social identity, and how does she negotiate and enact it in the DL program? 2) What is Xitlali’s investment in the language practices of the DL program? Data for this paper includes eight months of participant observation in a kindergarten DL program, video-recorded lessons, and semi-structured interviews with teachers and students. Xitlali’s case illustrates the complex processes that young emergent bilinguals engage in when developing their bilingualism and the importance of having young children’s voices at the center of empirical research in early childhood bilingual education.

**Keywords:** Bilingual education, dual language programs, identity, investment, kindergarten.

***“But I don’t want to speak English”*: Examining the intersection of Social Identity, Agency,  
and Language Investment in Early Childhood Bilingual Education**

*“Language is the place where actual and possible forms of social organization and their likely social and political consequences are defined and contested. Yet it is also the place where our sense of ourselves, our subjectivity, is constructed”* (Weedon, 1987, p. 21).

Sociocultural paradigms conceptualize human transformation as a product of social interactions in cultural spaces. In public schools, where children spend a great part of their days, there is no question that their learning, socioemotional well-being, sense of belonging, and identity are transformed and shaped by their social interactions. As school contexts in the U.S. continue to become increasingly culturally and linguistically diverse, interactions in school settings take on a more pronounced role, especially in learning contexts reportedly created to support the needs of culturally and linguistically diverse learners, such as dual language (DL) programs. These programs, which espouse three main goals— academic development, bilingualism, biliteracy, and sociocultural competence— have grown expeditiously in the U.S. over the last two decades (Galvan, 2022).

Research on DL programs in the U.S. has been abundant (i.e., Cervantes-Soon, 2014; Cervantes-Soon et al., 2017; Collier & Thomas, 2004; Delavan et al., 2021; Freire et al., 2021; Howard et al., 2018; Valdes et al., 2016, etc.). Much has been learned about the efficacy of DL programs in helping students to succeed academically and developing bilingualism and biliteracy (Collier & Thomas, 2004; Howard et al., 2018; Thomas & Collier, 2002). At the same time, however, critical research in DL education has also brought to the front prevalent inequities present in these settings at the intersections of race, ethnicity, social class, and language learning (Delavan et al., 2021; Freire et al., 2021; Martinez Negrette, 2020; 2023; Palmer, 2009; Valdes et al., 2016). Surely, there is a great wealth of knowledge that we have been able to accumulate as we have delved deeply into the study of DL contexts. Nevertheless, I argue that one important aspect still missing from our research conversations regarding bilingual education is children's voices. Particularly young, minoritized, multilingual speakers. Considering this, the present inquiry describes a single case study highlighting the voice and interactions of Xitlali<sup>1</sup>, a five-year-old multilingual speaker in a DL (English/Spanish) program.

Two main questions guide this study: 1) What is Xitlali’s social identity, and how does she negotiate and enact it in the DL program? 2) What is Xitlali’s investment in the language practices of the DL program? Data for this paper includes eight months of participant observation in a kindergarten DL program, video-recorded lessons, and semi-structured interviews with teachers and students. An in-depth examination of Xitlali’s interactions and her own voiced opinions provided a more nuanced understanding of the dynamics at play in the focal DL context and Xitlali’s social identity and agency. Her case illustrates the complex processes that young emergent bilinguals engage in when developing their bilingualism and the significance of research to unearth the interwoven nature of *language development and social processes*.

---

<sup>1</sup> All names used are pseudonyms.

## Guiding Frameworks

Sociocultural theory emphasizes the significance of reciprocal activity—mediated by tools, artifacts, cultural knowledge, and symbols—between the individual and the social context for cognition to emerge (Vygotsky, 1978). As young children participate in school practices, begin to interact socially within the school community and culture, and are exposed to more knowledgeable others, the everyday experiences they encounter start to transform their cognitive and linguistic development (Schieffelin & Ochs, 1986; Rogoff, 2003). In fact, according to Bransford, et al., (2000), children’s culturally constructed meaning is the primary system they employ to organize, expand, and establish their mental functions. From this point of view, this study uses a sociocultural approach (Vygotsky, 1978; Rogoff, 2003) and Norton’s (1995) conceptions of social identity and investment to analyze the language learning process and social interactions of one young, multilingual speaker (Xitlali) in a DL program. Using these analytical lenses, the study sought to better understand the interwoven nature of social identity and language learning and how this is impacted by school experiences and relationships.

Norton (1995) proposes a “comprehensive theory of social identity that integrates the language learner, [...] the language learning context,” and problematizes dualistic distinctions between the two (p. 9). According to the researcher, social identity is a “site of struggle,” a consideration that amplifies the position that social identity is “multiple and contradictory” (p. 15). Concerning this, Norton (1995) explains,

Subjectivity is produced in a variety of social sites, all of which are structured by relations of power in which the person takes up different subject positions [...] some positions of which may be in conflict with others. In addition, the subject is not conceived of as passive; he/she is conceived of as both subject of and subject to relations of power within a particular site, community, and society: The subject has human agency. (p. 15)

This understanding of social identity as varying and encompassing the individual and the collective was critical for this inquiry since it sought to explore how Xitlali’s emerging social identity was impacted by her language learning, schooling experiences, and the way she positioned herself and was positioned by others in different situations.

Regarding the notion of investment, Norton (1995) draws from Bourdieu’s (1977) economic metaphors, mainly the notion of cultural capital (Bourdieu & Passeron, 1977), to argue that when individuals invest in the learning of a language, they are driven by an “understanding that they will acquire a wider range of symbolic and material resources [i.e., education, money, social connections, etc.] which will in turn increase the value of their cultural capital” (p. 17). The expectation or hope of the learners, according to Norton (1995), is to have a “good return on that investment” that would give them access to resources previously considered unattainable (p. 17). Although Norton’s theory was applied to adults, and young children may not have a strong understanding of symbolic and material resources as adults do, children do understand how language functions (pragmatics of language) and are aware of the role of language in their lives, as sociocultural studies have demonstrated (i.e., Palmer, 2019; Hawkins, 2004). Thus, this study

takes as a starting point the role of children as social actors and meaning-makers and their agency displayed dissimilarly in their sociolinguistic interactions.

Both Norton's (1995) notion of investment and social identity center on the relationship of the language learner to the social context and the changing social world fraught with structures of power; this emphasis was pivotal in this study, as I investigated the relationship between the focal language learner and the multilingual and multicultural worlds she inhabited.

## **Dual Language Learning and Young Language Learners**

As mentioned, the literature on dual language education in the U.S. is vast. However, research focusing specifically on young (Pre-K & K) children's voices and perceptions in these programs is scarce. Most of the existing research has concentrated on older elementary-age children (Babino & Stewart, 2017; Fitts, 2009; Frieson, 2022; Hamman-Ortiz, 2023; Lindholm-Leary, 2016; Martinez et al., 2017; Presiado & Frieson, 2021, etc.). Young dual language learners have been studied from developmental (e.g., Buysse et al., 2014; Hoff et al., 2012; Scheffner Hammer et al., 2014), cognitive (e.g., Barac et al., 2014), sociolinguistic (e.g., Ballantyne et al., 2008; Choi & Lee, 2018), assessment (e.g., Guzman-Orth et al., 2017; Paez, et al., 2007) and demographic perspectives (e.g., Park et al., 2017), among others. Nevertheless, young children's (Pre-K & K) own understandings and opinions seem to have been highly overlooked in dual language research. This is concerning, especially considering that for many youngsters, pre-kindergarten and kindergarten are their first formal school experiences, and the first time they encounter a second language in a formal setting.

This "outsider" perspective, notable in early childhood dual language research, reflects a major focus on the researchers' perspectives to the detriment of gaining knowledge from children themselves. This could be related to the fact that for a long-time, child-development literature conceptualized children's socialization as a process characterized by "complete adults instruct[ing] and train[ing] incomplete children, who thus imitate[d] and mirror[ed] adults" (Mackay, 1974, as cited in Van Ausdale & Feagin, 2001, p. 20). From this established position, children were conceived of as incapable of understanding abstract social concepts because, it was thought, their lives were not based on those ideas (Holmes, 1995). However, modern research developments in fields such as psychology (e.g., Albert & Trommsdorff, 2014; Dorsa & McAuliffe, 2020), anthropology (e.g., LeVine, 2007; Montgomery, 2008), education (e.g., Suggate, & Reese, 2012; Couchenour & Chrisman, 2016), and sociology (e.g., Qvortrup et al., 2009; Corsaro, 2011) have brought new theoretical understandings to research, which have allowed researchers to counter previous classical conceptions of child development.

For example, sociocultural perspectives examine the role of culture in children's experiences and the interaction of different activity systems in people's lives (Vygotsky, 1978). These approaches consider child development and socialization as interactive and extensive processes where children, as social actors and meaning makers, actively contribute to their cultural communities by negotiating and interacting with others (Burner & Haste, 2010; Hawkins, 2004; Martinez Negrette, 2020; 2022). From this point of view, researchers such as Bengoechea et al. (2017), Martinez Negrette (2020; 2021; 2023), and Palmer (2019) have studied young children in

kindergarten and preschool DL programs to analyze young multilingual children's sociolinguistic interactions at school and their perceptions of their bilingual realities.

Bengoechea et al. (2017; 2020), for example, have conducted important work focused on showcasing the interactions of very young children in dual language contexts. In their (2017) study, the researchers analyzed the actions of one preschool emergent bilingual, Anthony, in a DL program, Spanish/English. In this case study, the researchers examined how the focal four-year-old, emergent bilingual, engaged in "meaning-making during play through verbal, visual and actional modes and in conjunction with additional subcategories in his transmodal repertoire (e.g., translanguaging, sentence types, actual versus signified use of artifacts)." (p. 38). This specific focus on the young child's ways of interacting allowed the researchers to uncover the different avenues Anthony used to engage various modes to "accomplish adult-centric tasks versus creatively engaging in child-centric play." (p. 38). The authors point out how this case illustrates the complex and multiple ways in which young emergent bilinguals participate in literate discourses and access a variety of modes to accomplish different purposes.

Martinez Negrette's (2020; 2021; 2023) work has examined how ideas of language use, race, and ethnicity are "discerned and re-shaped" by kindergarten children, who create their own social and linguistic classification patterns in DL programs. Her investigations shed light on how language practices and interactions are molded and impacted by social constructions, such as race, ethnicity, and bilingualism, from a very early age. Martinez Negrette's work is significant because it centers on the voices of kindergarten multilingual learners in DL contexts, opening spaces to listen to their interpretations and explanations. She emphasizes the importance of considering children as meaning-makers, individuals who exercise their agency, and engage in complex practices that go beyond the simple re-creation of adults' interactions.

Finally, another study that centered on kindergarten children's experiences and interactions in a DL program was conducted by Palmer (2019). Drawing on positioning theory (Davies & Harré, 1990) and a "conception of identities as co-constructed through discursive processes" (Bucholtz & Hall, 2005; Holland et al., 1998), Palmer (2019) shared the experiences of four kindergarten children—Katie, Elizabeth, Emilie and Clarita— "whose co-constructed identities defy the somewhat rigid boundaries of the TWDL program." (p. 248). In her study, the researcher notes that although the DL program must label the children either "blue" (i.e., English-speaking) or "red" (i.e., Spanish-speaking), she discovered that "parents, teachers, and the children themselves find creative, agentic ways to flout these labels in order to be—or become— bilinguals," or "purple kids," (a mixed of the two colors) as she identifies them (p. 248-254). Focusing on these young children's experiences and interactions, Palmer (2019) emphasizes the constant nature of identity co-construction and how this occurs as individuals "live, learn and grow in communities" (p. 248). Palmer's study spotlights the processes of dual language learning and development that defy rigid monolingual understandings in DL programming and demonstrates the significance of better understanding children's bilingual worlds.

The above-discussed studies point to the need to continue conducting research that has the voices and experiences of very young dual language learners at its core. The present study sought to add to this body of work. I contend that even though contemporary research on the development of young learners has been crucial for us to better comprehend their sociolinguistic and cognitive processes, without children's own articulations and interpretations, we run the risk of neglecting significant understandings in our research pursuits.



## Methodology

Data for this paper comes from a year-long ethnographic research study that investigated how young dual language learners perceived, navigated, and negotiated social constructions such as race, ethnicity, social class, and bilingualism in a strand DL program at an elementary school in the U.S. Midwest. This was the first year of the program, which followed the 50/50, two-teacher, Spanish/English, DL model. This meant that students received their instruction half of the day in English (in the English classroom with the English teacher) and the other half of the day in Spanish (in the Spanish classroom with the Spanish teacher). The study conducted during the 2017-2018 academic year included 18 kindergarten children and their English and Spanish teachers, who comprised one of the two kindergarten inaugural classes of the DL program.

An ethnographic case study was the best approach for examining the phenomenon under investigation because a case study methodology is typically used to achieve a thorough understanding of a specific situation and its meaning for the subjects involved (Merriam, 1998). Furthermore, as Erickson (1984) explains, “what makes a study ethnographic is that it not only treats a social unit of any size as a whole but that the ethnography portrays events, at least in part, from the points of view of the actors involved in the events” (p. 52). Thus, an ethnographic approach was helpful to collect and examine interactional data within a contextualized description (Bucholtz & Hall, 2005; Erickson, 2004). In addition, I relied on an interpretive research paradigm to understand the world inhabited by the participants, aiming to look for explanations from their perspectives instead of attempting to forge explanations from an external observer’s perspective.

I could have focused on almost any of the other 17 children in the focal class; nevertheless, Xitlali’s data seemed optimal given the limited number of studies focusing on young children’s voices, as well as the aspect of my argument that emphasizes the need to better understand the complex processes that young, minoritized children engage in when establishing their social identity and developing their bilingualism in DL learning contexts.

### Data Collection

Data collection methods included eight months of participant observations in the classroom, three semi-structured interviews with all study participants, and video recordings of the English and Spanish lessons twice a month. As a participant observer, I visited the school twice a week, attended school functions, supported teachers in the classroom, interacted with the children inside and outside of the classroom (e.g., lunch, recess, etc.), and engaged in various informal conversations with school community members about their experiences with the DL program. Fieldnotes were used to record conversations and impressions in the field, while analytic memos were recorded after school visits.

In addition, I interviewed all the DL teachers (Spanish & English) and the children in the focal class at the beginning of the school year, midway, and at the end. These interviews provided opportunities for clarification regarding some of the observations, allowed participants to share their points of view and explanations, and were useful for member-checking at the end of the study. Lastly, I video recorded the English and Spanish lessons twice a month (approximately 45 minutes to 1 hour) to observe in detail classroom interactions at different instructional times and to capture a broader range of experiences in the studied setting.

## Data Analysis

The first step in the data analysis process was a combination of listening to all participants' interviews multiple times, reviewing field notes to access important contextual information, and watching the videos repeatedly to have a preliminary idea of the different dynamics at work in the focal context. Once all data were reviewed multiple times, I started to notice some interesting dynamics (e.g., children who were "labeled" as "quiet," "mean," "problem" etc.) connected to specific children in the DL program, Xitlali was one of them. Thus, I purposely selected all the data (interviews, field notes, participant's comments, video-recorded classroom interactions) that allowed me a window into the phenomena of interest. Subsequently, I conducted a detailed examination of the selected data focusing on the language Xitlali used, her interactions with others, and her language learning process. Next, I wrote the research questions to guide the following steps of data analysis. Overall, my analysis was recursive and rotated between a close examination of transcriptions of the video recordings of classroom interactions, interview data, and a thematic analysis of fieldnotes. Each stage of the process informed the next.

## Findings

This section is divided into two main parts focused on answering the research questions guiding this inquiry. Seeking to highlight Xitlali's voice, I have started each segment of this section with quotes from Xitlali. The initial part focuses on the connections Xitlali establishes between her identity, the language (s) she speaks, and how she enacts her social identity in the DL program. The second part delineates Xitlali's investment in the language practices of the DL program and examines what her voiced opinions reveal about her language development process.

### 1. What is Xitlali's social identity, and how does she negotiate and enact it in the DL program?

***"Yo hablo en español con mi mami, mi hermanito, mi papi, mi tío, toda la familia"***

(I speak in Spanish with my mom, my little brother, my daddy, my uncle, all the family)

When Xitlali joined the DL program, she was five years old. Her entire family spoke only Spanish at home; thus, this was the language she was familiar with, socialized into, and used to communicate. Kindergarten was her first formal school experience, and it was in this learning context that she encountered officially, for the first time, the English language. For Xitlali, this was a system of communication that was completely foreign to her. During her first interview, she explained, *"Yo no entiendo cuando me hablan en inglés, solo en español; yo hablo en español con mi familia"* (I don't understand when people speak to me in English, only Spanish, I speak in Spanish with my family). Having lived the first five years of her life within her family context, it appears that Xitlali's process of socialization prior to joining the DL program was intricately connected to who she was as part of her family and the pivotal role that the Spanish language played in her family interactions. She expressed:

*Yo hablo en español con mi mami, mi hermanito, mi papi, mi tío, toda la familia [...] Cuando juego con mis primos y mis primas, yo hablo en español porque yo hablo español con mi familia. (I speak in Spanish with my mom, my little brother, and my uncle, all the family [...] When I play with my cousins, I speak in Spanish because I speak Spanish with my family). (Interview)*

From Xitlali's explanations, it is noticeable how she associates the Spanish language with her family interactions. During her first interview, she remarked, not once but twice, how she spoke Spanish with her family, thus perhaps demonstrating how, in her mind, the two were interconnected. Furthermore, it seems that in some way, for her, the use of the Spanish language is "expected" as part of her family identity (*because I speak Spanish with my family*). Xitlali's answers also reveal a broader understanding of family. The family group she describes includes not only her nuclear family (mommy, daddy, little brother) but also her extended family (uncle, cousins). This is not surprising in the Latin@ culture where extended family is very important (Skogrand et al., 2005; Valdes, 1996), but it is significant for this inquiry because it adds weight to her consideration of whom she gets to interact with in Spanish. In this regard, Norton (1995) explains that when it comes to language learners, an investment in the language is also an "investment in a learner's own social identity [...] communication and social interaction are implicated in the construction of a language learner's social identity" (p. 17-18). In Xitlali's case, the Spanish language was not simply a vehicle of communication but a characteristic of her social identity, which was inextricably rooted in who she was as part of her family and how she connected with the people she loved. Thus, she was invested in learning it. However, once she went to school and joined the DL program, her socialization process, including the "target" language of communication—English and her investment in it, changed.

### *Silence as a sign of resistance*

In her DL kindergarten class, Xitlali's new socialization context, her social identity as a Spanish speaker, was minimized to a certain extent. When she entered school, Xitlali was "labeled" as an English Language Learner (ELL<sup>2</sup>). Even though she was part of the DL program, which was purportedly created to valorize the sociolinguistic resources that multilingual speakers like her brought to the classroom (as indicated in the school's website), it seemed that the main expectation was for her to learn English (for more on this, see Valdes, 1997). This was evident in the English environment surrounding her and the "unspoken rules" of the school<sup>3</sup>. In her Elementary school, all communication was conducted in English, except in the Spanish classroom, where the Spanish teacher always reminded children: "*en español. ¡Aquí se habla español!*" (In Spanish. Here we speak Spanish!). In the hallways, English could be heard by adults and children; it was the language used during school functions and events, and apart from the few conversations that some Spanish-speaking parents occasionally had on school premises, English was the expected language of communication (field notes).

In the English classroom, from the beginning of the year, the English teacher told the students that she could not understand Spanish; consequently, she expected everyone to speak in English. Even when some children alluded to words in Spanish in class or made comparisons when

---

<sup>2</sup> There are many terms used for students in schools from language backgrounds other than English who are in the process of learning English. Educators often referred to these students as English Language Learners (ELLs) and legislators and the federal government use the term Limited English Proficient students (LEPs) (Garcia, 2009).

<sup>3</sup> Even though the school had some bilingual signs (English/Spanish), they were displayed only on the main floor of the school, and the library section of books in Spanish was very small. For more on this see Author, (2020).

they found similarities between the two languages they were learning, the English teacher's response was, "*this is the English classroom; here we speak in English. You speak Spanish there (pointing to the Spanish classroom)*" (fieldnotes). Commenting on this, Jacob (monolingual, English speaker), one of Xitlali's classmates, explained, "*you have to speak in English because then, we would not understand each other*" (interview). Thus, reinforcing the message that English was the accepted and preferred language.

Even though, in theory, the DL program was created to elevate the status of the Spanish language and its speakers at school, there seemed to have been a widespread, taken-for-granted assumption of English as the language "everyone understood," and was expected to use to ensure smooth communication (field notes & interviews). Thus, Xitlali went from inhabiting an environment surrounded by her family and all the sounds and interactions that were familiar to her to a place where the language she related to was confined to one single classroom, the Spanish classroom; everything else she heard was in English. This was disheartening for her sometimes. In early February, she came to me frustrated because she could not understand the conversations some children were having in English. She said: "*I hate English!*" It was surprising to hear her saying something in English since I knew she was still in the process of acquiring the language. At the same time, however, it was also very telling to hear that the first few words she spoke to me in English were hostile words towards the new language she was learning (field notes). Her frustration reminded me of what Schieffelin and Ochs (1984) explain regarding the language socialization process. According to the researchers, this process is "deeply affected by the process of becoming a competent member of society [and] the process of becoming a competent member of society is realized to a large extent through language" (pg. 277). Xitlali went from being a competent member of her family, able to communicate and interact with them (as she recounted in the interviews), to becoming someone who had difficulty understanding the words spoken around her. This influenced her perception of the English language, her investment in the language practices of the DL program, and her social identity.

## **2. What is Xitlali's investment in the language practices of the DL program?**

***"Yo solo hablo español, yo también puedo hablar inglés, pero no quiero hablar inglés"***  
*(I speak only Spanish, and I can also speak English, but I don't want to speak English)*

During the first few months at school, Xitlali was noticeably quiet. She seemed to be observing everything around her but would seldom speak, even during the lessons in Spanish (field notes & video-recordings). It appeared that she was going through a "silent period," in her language learning process (Krashen, 1982). The teachers knew that her understanding of English was limited, so they assigned one of her classmates as a partner (monolingual English speaker) to work with; this was a practice implemented with all students in the program. The goal was that they could help each other and regard one another as language experts during the lessons in English and Spanish (teacher interview; Alanís & Arreguín-Anderson, 2015; Arreguín-Anderson & Alanís, 2019). However, Xitlali continued to remain silent in the English classroom. She used her head and gestures, such as shrugging of her shoulders, as ways to respond when the teachers and peers addressed her but would not use her words (field notes & video recordings). As the school year advanced, I followed her closely, interviewed her, and interacted with her regularly. It was then that I realized that her silence may not have been only connected to her natural language learning

process; it may have been intentional. It seemed that Xitlali was purposely resisting the use of the English language. In her second interview, mid-way through the school year, she observed,

**Interviewer:** [...] *Yo hablo ingles y español y tu? Tu hablas español?* (I speak English and Spanish and you? Do you speak Spanish?)

**Xitlali:** *Si!* (Yes!)

**Interviewer:** *Y también hablas Inglés?* (And you also speak English?)

**Xitlali:** *Si, pero no me gusta hablar en inglés, [...]* (Yes, but I don't like to speak in English)

**Interviewer:** *¿Porqué?* (Why?)

**Xitlali:** *Yo no quiero hablar en inglés, [...] me gusta hablar en español porque hablo con mis primas, mis tías, mi papa, mi mama, mi hermanito [...] yo hablo en inglés en la escuela.* (I don't want to speak English [...] I like to speak Spanish because I speak with my cousins, my aunts, my dad, my mom, my little brother... I speak English at school).

In her explanation, Xitlali clearly states how she feels about speaking English and Spanish and then clearly distinguishes between the people (her family) and the context (school) where she uses the two languages. The first context seems naturally attached to who she is as a person and her social identity, while the other seems artificially created for the purpose of learning. As Xitlali was answering the interview questions and talking about her experiences, there was also a clear distinction in her tone and the inflection in her voice as she described the different contexts. While talking about school, she seemed distanced and uninterested; her answers were short and devoid of emotion, as shown in the transcript below.

**Interviewer:** *¿Y en la escuela, con quién hablas en inglés?* (And at school, who do you speak in English with?)

**Xitlali:** *Ms. Rosie habla inglés* (Ms. Rosie speaks in English) (Xitlali seemed distracted, she was playing with markers) (field notes)

**Interviewer:** *¿Y tu hablas inglés con ella?* (And do you speak in English with her?)

**Xitlali:** *Ella habla en Inglés* (She speaks in English)

**Interviewer:** *¿Y con tus amiguitos, hablas en inglés?* (And with your friends, do you speak in English?)

**Xitlali:** *No*

However, as soon as she started talking about her family, Xitlali's demeanor changed, and so did her vocabulary as she extended her feelings and emotions with more detail. She described how she played with her cousins and how, during her birthday party, everyone attending would speak in Spanish. Her emotional attachment was evident as she enumerated all the people in her family who could speak Spanish.

**Interviewer:** *¿Y con quién hablas en español?* (And who do you speak Spanish with?)

**Xitlali:** (She looked up and started answering the question excitedly) (field notes). *Con mis primas, mis tías, mi papá, mi mamá, mi hermanito. En mi casa yo juego con mis primas, ellas vienen a mi casa.* (With my cousins, my aunts, my dad, my mom, my Little brother. At home I play with my cousins, they come to my house).

**Interviewer:** *¿Y cuando juegan hablan en español o inglés?* (And when you play, do you speak in English or Spanish?)

**Xitlali:** *En español, mi familia habla español [...] en mi fiesta de cumpleaños vienen mis primas, mis tios, mis amiguitos* (In Spanish, my family speaks Spanish [...] my cousins, my uncles, my friends will come to my birthday party)

**Interviewer:** *¿Y en tu fiesta las personas hablan español o inglés?* (And at your party, do people speak in English or Spanish)

**Xitlali:** *Español!* (Spanish!)

Xitlali's demeanor and responses reminded me of what Steffensen and Kramsch (2017) stress regarding language learners. According to the researchers, it is important to consider that the "socialization processes of language learners, who are already socialized in their primary community, include constant reflections about identity, social relations, and [different] [...] implications" (as cited in Lado & Quijano, 2020, p. 136). Even though Steffensen and Kramsch (2017) focus on adult language learners, their considerations illuminate some of the issues Xitlali encountered when faced with her own language learning process. In her case, it seemed that some of those implications—identity, social relations— may have influenced her investment in the language practices of the program.

By the second trimester of the school year, the teachers in the DL program started to worry about Xitlali's "lack of communication skills" since she remained mostly quiet (field notes & video-recordings). After the Christmas break, during sharing time, the English teacher asked Xitlali to share what she did over the weekend, Xitlali responded by shrugging her shoulders. At that moment, the English teacher looked at Xitlali and said: "*ok, but this* (she shrugged her shoulders) *is not going to work anymore.*" Xitlali looked at her with her big dark eyes and remained silent (field notes). Her silence, which I understood as her way to resist the English language and enact her agency, became worrisome for her teachers. Thus, she was referred to speech and language services and received support in English from a professional (field notes). During her second formal interview (midway through the school year), when I asked her about the languages she was learning, her words attested to her agency and how she had chosen to navigate her new socialization context. She expressed, "*Yo solo hablo español, yo también puedo hablar inglés,*

*pero no quiero hablar inglés, solo hablo español en este salón*” (I speak only Spanish, and I can also speak English, but I don’t want to speak English, I only speak Spanish in this classroom) — pointing to the Spanish classroom.

Examined through the theoretical lens of investment (Norton, 1995), Xitlali’s statement demonstrates her lack of investment in the learning of the English language. It seemed that her experiences in the DL program, up to that point, had not convinced her that she would “acquire a wider range of symbolic and material resources [i.e., friendships, more learning opportunities, etc.] which [would] in turn increase the value of [her] cultural [and social] capital” (p. 17). On the contrary, the data seems to suggest that for her, learning the new language would not have a “good return on [her] investment” (Norton, 1995, p. 17). The children she usually played with were dominant Spanish speakers; she was able to understand the instruction in the Spanish classroom, and she was very fond of her Spanish teacher, Ms. Gabby, as she expressed in one of her interviews: “*A mi me gusta más el salón de español y Ms. Gabby, me gusta la clase de español*” (I like the Spanish classroom better and Ms. Gabby, I like the Spanish class). Xitlali did not seem to consider that learning English would give her further access to resources previously considered unattainable, such as new friendships with English-speaking peers, because they were also learning Spanish. Even though English was the language she heard mostly in school, she seemed to view the learning of this new language as disconnected from the symbolic resources that already existed for her (family connections/relationships) and the social identity as a Spanish speaker she valued.

## Discussion

According to Duff (2002), “language socialization models typically assume that ‘novices will learn to participate like ‘experts’ or more proficient peers, with time, mentoring, and experience” (p. 314). This is generally accurate; however, language socialization models should also account for the relationship of the ‘novice’ to already established social relations, their emotional attachments to the languages, and what they may find as valuable—or not—in the language learning process (Steffensen & Kramsch, 2017; Norton, 1995). For Xitlali, the matter was not simply that she did not know how to participate (although this was the case initially because she did not know English, she did learn English in time). One of the fundamental issues in her language learning process was her lack of connection with the new language and the strong emotional connection of her social identity to the Spanish language. Despite being in the DL program, the Spanish language did not have the same high status as English in her new learning environment, where English was understood as the ‘language of power.’ Moreover, even though the DL program at her school was purportedly created to support multilingual speakers like her, it seemed that the main expectation was for her to learn English. This concurs with what researchers like Valdes (1997) have cautioned against in DL programs. Valdes (1997) explains that “for minority children, [like Xitlali] the acquisition of English is expected. For mainstream children, the acquisition of a non-English language is enthusiastically applauded” (p. 417). This demonstrates the differences in the prestige and necessity of learning English in American school contexts, which reflects wider societal structures (Smith et al., 2002). It may also explain Xitlali’s resistance to the learning of English. Research has demonstrated that the learning environment, and the messages received directly and indirectly in that environment (e.g., “here we speak in English”) greatly influence how children respond to learning another language and maintaining their home language (Arreguín-Anderson & Alanís, 2019; Hamman-Ortiz, 2023; Martínez Negrette, 2020).

When analyzing Xitlali's case, Norton's (1995) social identity theory was useful because it helped me to zoom in on "how affective factors are frequently socially constructed in inequitable relations of power, changing over time and space, and possibly coexisting in contradictory ways in a single individual" (p. 12). For Xitlali, learning a new language did not seem to mean just the acquisition of a new system of communication; learning English for her may have also meant giving in to a new linguistic structure that had the power to confine the language she knew and her social identity to a single space: the Spanish classroom (*I only speak Spanish in this classroom*). Language may have been "understood with reference to its social meaning" (Norton, 1995, p.13). Thus, she resisted. She refused to speak English, even when she had already started to learn some English, she refused to participate in the language practices of her new socialization context. The contradictions coexisting in Xitlali's social identity point to how language learning goes beyond grammar structures and sounds. It involves the situatedness and dissimilarities of language learners' identities and how they choose to enact and negotiate them. Xitlali's case is reminiscent of the observation made by Jason, a multilingual participant, in He's (2010) study, as he spoke about his connection to his home language:

*My home language is Chinese. My parents are from China. They praised me, scolded me, all in Chinese [...] when I think of Chinese, I think of my mom, dad, and home. It is the language of my home, and my heart. (p. 66)*

Similar to what Jason expressed, in Xitlali's explanations is also noticeable the connection she established between her home language and her family relationships. Thus, I contend that her silence may have been one way she felt she was resisting moving away from everything she knew, who she was socially, and what she found familiar and important before attending school.

In addition, the data suggests that her silence may have also been her way to counter, at five years of age, marginalizing identifications—such as English language learner—that so strongly determined her social status in her new environment. As Norton (1995) explains, "paradoxically the decision to remain silent or the decision to speak may both constitute forms of resistance to inequitable social forces. [...] [because] investments [...] are closely connected to the ongoing production of a language learner's social identity" (p. 20). Commenting on this, Sharkey (2004) adds, "silence should not necessarily be seen as a deficit, but as a political act of resistance" (p. 507). Lamentably, that is not how the adults in the DL program interpreted Xitlali's silence. Xitlali was considered as "just a quiet student," someone who had a "deficit" (did not communicate as expected in the classroom) that needed to be remedied. This general depiction overlooked her individual investment—or lack thereof—in the language practices of the program and precluded her teachers from considering the complexity of her interactions and the intertwined nature of her social identity and language development.

Just to be clear, I am not blaming the teachers for trying to do what they may have thought was needed to help Xitlali. Still, to implement bilingual programs where all children are considered competent learners, educators must understand the sociocultural processes involved in the learning of multiple languages. Hence, what I want to bring attention to is the need to listen to young children's voices and to consider their experiences from more comprehensive perspectives, including how they negotiate, accept, or reject the identities ascribed to and imposed on them in modern-day educational contexts (Martinez Negrette, 2023; Palmer, 2019). As Graue and Walsh (1998) state, "...it is ironic that a field that takes great pride in its attention to young children has been dominated by research methodologies that are, in practice, quite distanced from children



themselves” (p. 136). As mentioned in the introductory section of this paper, young children’s voices and perspectives are seldom at the center of empirical studies in early childhood dual language education, which may be having an impact on our considerations of children’s agency in the learning process (Martinez Negrette, 2022).

Finally, while in the past research in second language acquisition limited understandings of learners to binary definitions such as introverted or extroverted, motivated, or unmotivated, present-day identity theories offer us ways to see the individual language learner as situated in a larger social world (Norton, 1995; Hawkins, 2004; Palmer, 2019). A world that impacts how they see themselves, their social identity, and how they understand and react to the contexts they inhabit and their position in them. The examination of the relationship of the language learner to the social context helps us reconsider the role of the changing social worlds learners inhabit and how they choose to resist and negotiate their positions in them (Norton, 1995).

In Xitlali’s case, her evolving social identity, once entirely attached to her family interactions and the Spanish language, was a “site of struggle” in her new learning context that insisted she learn another language she had no connection to. Her explanations unveiled the complexity of her social identity; when Xitlali was learning the target language, she was not only “exchanging information with target language speakers but [she was] constantly organizing and reorganizing a sense of who [she was] and how [she] relate[d] to the social world” (Norton, 1995; p. 18). In doing so, she was choosing a specific position from which she could participate in social life, demonstrating how she could, but sometimes could not, appropriate a more desirable identity with respect to the target language community. Paradoxically, some of her identity positions limited and constrained opportunities for her to participate in her new learning environment and ended up contributing to her being considered as someone in need of remedial help.

### **Implications**

The findings from this study have significant implications for DL early childhood educators and education stakeholders in general. First, this study highlights the symbiotic relationship of social identity and language investment, unveiling how language learners, even at a young age, consider who they are as they make decisions regarding whether to invest in the learning of the new language or resist it. DL educators must keep this relationship in mind as they support young learners in their sociolinguistic journeys. Divorcing language learning from the social identity of the learner is not only detrimental to the learning process but also an unnatural dissociation; as Gloria Anzaldúa reminds us, “I am my language” (Anzaldua, 1987, p. 26).

Second, many scholars have pointed to power differences regarding the status of English versus minoritized languages in DL programs (e.g., de Jong & Howard, 2009; Flores & Garcia, 2017; Valdes, 1997; 2018). This is a complex issue that requires intentional work from educators, administrators, and supporting personnel in multilingual learning spaces to bring about linguistic equity. Thus, it is critical for stakeholders in school communities to work together on the co-construction of DL learning environments that are characterized by linguistic and pedagogical practices (e.g., bilingual school assemblies, field trips that involve multilingual settings, inviting

multilingual speakers from the community, etc.) that push-back against the hegemony of the English language.

Finally, one of the main points I have endeavored to make in this article is the need to listen to young children, especially in our school communities and research undertakings. Educators are tasked with the responsibility of guiding children in their learning journeys, yet, at the same time, they are also burdened with a myriad of other tasks that make it difficult to listen to the smallest voices during a cacophony of duties. I believe that a way to support educators and bring students' voices to the front is by creating partnerships between researchers and teachers; this would facilitate teachers' ability to reflect on what children are expressing as they create spaces to listen and better support children. This study has shown that children can recognize the difference in the power dynamics at work in their classrooms. If we do not learn with and from them, we may continue to miss important opportunities to advance our pedagogical and analytical understandings.

### **Limitations and Conclusion**

I am aware that in this article, I am presenting a single case study of a very young, minoritized, multilingual speaker in one DL program in a specific region of the U.S. Thus, I am not attempting to generalize the findings from this inquiry to other regions, age groups, or populations. Nonetheless, this study provides significant insights for researchers and education stakeholders as it allows us to consider the experiences of young dual language learners from their point of view. In addition, it is important to clarify that this study does not suggest in any manner that Xitlali's social identity is fully formed at five years of age. Individuals' social identity shifts and is impacted by many factors. Thus, this inquiry solely focuses on Xitlali's social identity at the time of the study and how she enacted and negotiated the learning of English in the DL program.

The findings from this study are evidence of how young children navigate multilingual spaces and discern power relations connected to the languages they are learning. The study confirms the differences in learners' investments in the language practices of their classrooms and communities. The languages children speak, the behaviors they exhibit, the knowledge they possess, and the artifacts they create are all reflections of the cultural communities in which they participate (Dyson, 1997; Moll et al., 1992; Rogoff, 2003). As language learners in bilingual education programs in the U.S. claim the right to maintain and speak their home language from the same standing as the majority language, their identities and investments will continue to generate new questions for research. That is, if we listen to their voices and uphold their claim to be heard in contemporary educational spaces.

## References

- Albert, I., & Trommsdorff, G. (2014). The Role of Culture in Social Development Over the Lifespan: An Interpersonal Relations Approach. *Online Readings in Psychology and Culture*, 6(2).
- Anzaldúa, G. (1987). *Borderlands/La Frontera: The New Mestiza*. Spinsters, Aunt Lute.
- Arreguín-Anderson, M. G., & Alanís, I. (2019). *Translingual partners in early childhood elementary education: Pedagogies on Linguistic and Cognitive Engagement*. New York, NY: Peter Lang Publishers.
- Alanís, I. & Arreguín-Anderson, M. G. (2015, Winter). Developing paired learning in dual language classrooms. *Early Years: Journal of the Texas Association for the Education of Young Children*, 24-28.
- Babino, A., & Stewart, M. A. (2017). “I like English better”: Latino dual language students’ investment in Spanish, English, and bilingualism. *Journal of Latinos and Education*, 16(1), 18–29.
- Ballantyne, K. Sanderman, A., McLaughlin, N. (2008). Dual Language Learners in the Early Years: Getting Ready to Succeed in School. *National Clearinghouse for English Language Acquisition & Language Instruction Educational Programs*.
- Barac, R., Bialystok, E., Castro, D. Sanchez, M. (2014). The cognitive development of young dual language learners: A critical review. *Early Childhood Research Quarterly*, 29: 4, 699-714.
- Bengochea, A., Sembiente, S. F., & Gort, M. (2017). An emergent bilingual child’s multimodal choices in sociodramatic play. *Journal of Early Childhood Literacy*, 18(1), 38–70.
- Bengochea, A., Sembiente, S. F., & Gort, M. (2020). Exploring the object-sourced transmodal practices of an emergent bilingual child in sociodramatic play. *Journal of Early Childhood Research*, 18(4), 371–386.
- Bourdieu, P. (1977). *Outline of a Theory of Practice* (Cambridge Studies in Social and Cultural Anthropology) (R. Nice, Trans.). Cambridge: Cambridge University Press.
- Bourdieu, P., & Passeron, J. C. (1977). *Reproduction in education, society, and culture*. Beverly Hills, CA: Sage.
- Bransford, J. D., Brown, A. L., & Cocking, R. R. (2000). *How People Learn: Brain, Mind, Experience, and School*. Washington DC: National Academy Press.
- Bruner, J. S., & Haste, H. (Eds.). (2010). *Making Sense (Routledge revivals): The child’s construction of the world*. New York, NY: Routledge.
- Bucholtz, M., & Hall, K. (2005). Identity and interaction: a sociocultural linguistic approach. *Discourse Studies*, 7(4–5), 585–614.
- Buysse, V., Peisner-Feinberg, E., Páez, M., Scheffner Hammer, C., Knowles, M. (2014). Effects of early education programs and practices on the development and learning of dual language learners: A review of the literature. *Early Childhood Research Quarterly*, 29: 4, 765-785.
- Cervantes-Soon, C. (2014). A Critical Look at Dual Language Immersion in the New Latin@ Diaspora. *Bilingual Research Journal*, 37(1), pp. 64-82.
- Cervantes-Soon, C. G., Dorner, L., Palmer, D., Heiman, D., Schwerdtfeger, R., & Choi, J. (2017). Combating inequalities in two-way language immersion programs: Toward critical consciousness in bilingual education spaces. *Review of Research in Education*, 41(1), pp. 403–427.
- Choi, J. & Lee, J. (2018). (Examining the oral language competency of children from Korean immigrant families in English-only and dual language immersion schools. *Journal of Early Childhood Research*, 16(1) 32–51.
- Collier, V. P., & Thomas, W. P. (2004). The astounding effectiveness of dual language education for all. *NABE Journal of Research and Practice*, 2(1), pp. 1–20.
- Corsaro, W. (2011). *The Sociology of Childhood* (Sociology for a New Century Series) Third Edition.

- Couchenour, D., & Chrisman, J. K. (Eds.). (2016). *The SAGE encyclopedia of contemporary early childhood education*. Sage Publications.
- Davies, B., & Harré R. (1990). Positioning: The Discursive Production of Selves. *Journal for the Theory of Social Behavior*, 20, 43-63.
- de Jong, E., & Howard, E. (2009). Integration in two-way immersion education: Equalizing linguistic benefits for all students. *International Journal of Bilingual Education and Bilingualism*, 12(1), pp. 81–99.
- Delavan, G., Freire, J. & Menken, K. (2021). Editorial introduction: a historical overview of the expanding critique(s) of the gentrification of dual language bilingual education. *Language Policy* 20, 299–321.
- Dorsa, A. & McAuliffe, K. (2020). Cross-cultural, developmental psychology: integrating approaches and key insights, *Evolution and Human Behavior*, 41, (5), p. 430-444.
- Duff, P. (2002). The discursive co-construction of knowledge, identity, and difference: An ethnography of communication in the high school mainstream. *Applied Linguistics* 23, 289–322.
- Dyson., A. H. (1997). *Writing Superheroes: Contemporary Childhood, Popular Culture, and Classroom Literacy*. New York, NY: Teachers College Press.
- Erickson, F. (2004). *Talk and social theory: Ecologies of speaking and listening in everyday life*. Cambridge: Polity Press.
- Fitts, S. (2009). Exploring Third Space in a Dual-Language Setting: Opportunities and Challenges. *Journal of Latinos and Education*, 8:2, 87-104.
- Flores, N., & García, O. (2017). A critical review of bilingual education in the United States: From basements and pride to boutiques and profit. *Annual Review of Applied Linguistics*, 37, 14-29.
- Freire, J., Gambrell, J., Kasun, S., Dorner, L., & Cervantes-Soon, C. (2021): The expropriation of dual language bilingual education: deconstructing neoliberalism, whitestreaming, and English-hegemony, *International Multilingual Research Journal*.
- Frieson, B. L. (2022). “It’s like they don’t see us at all”: A Critical Race Theory critique of dual language bilingual education for Black children. *Annual Review of Applied Linguistics*, 42, 47 - 54.
- Galvan, A. (2022). U.S. sees explosion of dual language programs. *Axios*. Retrieved from <https://www.axios.com/2022/04/05/explosion-dual-language-programs-spanish#>
- García, O. (2009). *Bilingual education in the 21st century: A global perspective*. Malden, MA. Basil/Blackwell.
- Graue, M.E. & Walsh, D.J. (1998). *Studying children in context: Theories, methods & ethics*.
- Guzman-Orth, D., Lopez, A., Tolentino, F. (2017). A Framework for the Dual Language Assessment of Young Dual Language Learners in the United States.
- Hamman-Ortiz, L. (2023). Becoming bilingual in two-way immersion: patterns of investment in a second-grade classroom, *International Journal of Bilingual Education and Bilingualism*, 26:1, 69-83.
- Hawkins, M.R. (2004). Researching English language and literacy development in schools. *Educational Researcher*, 33, (3), pp. 14–25.
- He, A. W. (2010). The heart of heritage: Sociocultural dimensions of heritage language learning. *Annual Review of Applied Linguistics*, 30, 66–82.
- Hoff, E., Core, C., Place, S., Rumiche, R., Señor, M., Parra, M. (2012). Dual language exposure and early bilingual development. *Journal of Child Language*, 39(1), 1-27.
- Holland, D., Lachicotte, W., Skinner, D., & Cain, C. (1998). *Identity and agency in cultural worlds*. Cambridge, MA: Harvard University Press.
- Holmes, R. (1995). *How young children perceive race*. Thousand Oaks, CA: Sage.

- Howard, E., Lindholm-Leary, K., Rogers, D., Olague, N., Medina, J., Kennedy, B., Christian, D. (2018). *Guiding principles for dual language education* (3rd ed.). Washington, DC: Center for Applied Linguistics.
- Krashen, S. D. (1982). *Principles and Practice in Second Language Acquisition*. New York and Oxford: Pergamon Press.
- Lado, B. & Quijano, C. (2020). Ideologies, Identity, Capital, and Investment in a Critical Multilingual Spanish Classroom. *Critical Multilingualism Studies* 8:1, pp. 135–164.
- LeVine, R. (2007). “Ethnographic Studies of Childhood: A Historical Overview.” In *Special Issue: In Focus: Children, Childhood, and Childhood Studies*. Edited by Myra Bluebond-Langner and Jill Korbin. *American Anthropologist* 109. 2, pp. 247–260.
- Lindholm-Leary, K. (2016). Students’ Perceptions of Bilingualism in Spanish and Mandarin Dual Language Programs. *International Multilingual Research Journal*, 10:1, 59-70.
- Martínez, R., Durán, L., & Hikida, M. (2017). Becoming “Spanish Learners”: Identity and Interaction Among Multilingual Children in a Spanish-English Dual Language Classroom. *International Multilingual Research Journal*, 11:3, 167-183.
- Martinez Negrette, G. (2020). ‘You don’t speak Spanish in the cafeteria’: an intersectional analysis of language and social constructions in a kindergarten dual language immersion class. *International Journal of Bilingual Education and Bilingualism*. 1-17.
- Martinez Negrette, G. (2021): ‘He looks like a monster’: kindergarten children, racial perceptions, and systems of socialization in dual language education. *Race Ethnicity and Education*, pp. 1-19.
- Martinez Negrette, G. (2022). Bilingual Ways with Words: Children’s Identity Enactment and Negotiation in a Dual Language Immersion Class. *Journal of Language, Identity & Education*, pp. 1-16.
- Martinez Negrette, G. (2023). “Don’t Take Our Space”: Strategies, Agency, and Resistance in the White Space of a Dual Language Program. *TESOL Quarterly*. 1-23.
- Moll, L., Amanti, C., Neff, D., & Gonzalez, N. (1992). Funds of knowledge for teaching: Using a qualitative approach to connect homes and classrooms. *Theory Into Practice*, 31:2, 132-141.
- Montgomery, H. (2008). “Childhood within Anthropology.” In *An Introduction to Childhood: Anthropological Perspectives on Children’s Lives*. By Heather Montgomery, 17–49. Oxford: Wiley-Blackwell.
- Norton, B. (1995). Social Identity, Investment, and Language Learning. *TESOL Quarterly*, 29(1), 9-31.
- Páez, M., Patton O. Tabors, L., López, L. (2007). Dual language and literacy development of Spanish-speaking preschool children. *Journal of Applied Developmental Psychology*, 28: 2, 85-102.
- Palmer, D. (2009). Middle-class English speakers in a two-way immersion bilingual classroom: “Everybody should be listening to Jonathan right now . . .” *TESOL Quarterly*, 43, 177–202.
- Palmer, D.** (2019) “You’re not a Spanish speaker!/We are all bilingual” The purple kids on being and becoming bilingual in a dual language kindergarten classroom. In: Faltis, C. & MacSwan, J. Eds. *Code-Switching in the Classroom: A Multilingual Perspective on Language and Language Practices*. Routledge, pp.247-267.
- Park, M., O’Toole, A., Katsiaficas, C. (2017). Dual Language Learners: A National Demographic and Policy Profile. Fact Sheet. *Migration Policy Institute*.
- Presiado, V., Frieson, B. (2021). “Make sure you see this”: Counternarratives of multilingual Black girls’ language and literacy practices. *Literacy Research: Theory, Method, and Practice*, (70),1, 388-407.
- Qvortrup, J., Corsaro, W., & Honig, M. (2009). (eds). *The Palgrave Handbook of Childhood Studies*. Basingstoke, UK: Palgrave.

- Scheffner Hammer, C., Hoff, E., Uchikoshi, Y., Gillanders, C., Castro, D., Sandilos, L. (2014). The language and literacy development of young dual language learners: A critical review. *Early Childhood Research Quarterly*, 29: 4, 715-733.
- Suggate, S., & Reese, E. (Eds.). (2012). *Contemporary debates in childhood education and development*. Routledge.
- Rogoff, B. (2003). *The cultural nature of human development*. Oxford University Press.
- Schieffelin, B., & Ochs, E. (1984). Language acquisition and socialization: Three developmental stories and their implications. In R. Shweder, & R. Levine (Eds.), *Culture Theory: Essays on Mind, Self and Emotion*. New York, NY: Cambridge University Press, pp. 276-320.
- Schieffelin, B. B., & Ochs, E. (1986). *Language socialization across cultures. (Studies in the social and cultural foundations of language (Vol. 3))*. Cambridge University Press.
- Sharkey, J. (2004). Lives stories don't tell: Exploring the untold in autobiographies. *Curriculum Inquiry*, 34, 495–512.
- Skogrand, L., Hatch, D., & Singh, A., (2005). *Understanding Latino families, implications for family education*. Cooperative Extension, Utah State University. <https://citeseerx.ist.psu.edu/document?repid=rep1&type=pdf&doi=2fccad20ae09750bf6d167f62dd9454d1ff6400d>
- Smith, P. H., Arnot-Hopffer, E., Carmichael, C. M., Murphy, E., Valle, A., Gonzalez, N., Poveda, A. (2002). Raise a Child, Not a Test Score: Perspectives on Bilingual Education at Davis Bilingual Magnet School. *Bilingual Research Journal*, 26, (1), pp.103-21.
- Steffensen, S. V., & Kramsch, C. (2017). The ecology of second language acquisition and socialization. In P. Duff & S. May (Eds.), *Language socialization. Encyclopedia of language and education* (3rd ed., pp. 17–32). Springer.
- Thomas, W.P. and Collier, V.P. (2002). *A National Study of School Effectiveness for Language Minority Students' Long-Term Academic Achievement*. Center for Research on Education, Diversity and Excellence, Santa Cruz, CA.
- Valdés, G. (1996). *Con respeto: Bridging the distances between culturally diverse families and schools: an ethnographic portrait*. New York: Teachers College Press.
- Valdés, G. (1997). Dual language immersion programs: A cautionary note concerning the education of language-minority students. *Harvard Educational Review*, 67, 391–429.
- Valdes, G. (2018). Analyzing the curricularization of language in two-way immersion education: Restating two cautionary notes. *Bilingual Research Journal*. 41 (4), 388–412.
- Valdéz, V. Freire, J. & Delavan, G. (2016). The Gentrification of Dual Language Education. *The Urban Review* 48(4), pp. 601–627.
- Van Ausdale, D. Feagin J. (2001). *The First R: How Children Learn Race and Racism*. Rowman and Littlefield; MD: Lanham.
- Vygotsky, L. S. (1978). *Mind in society*. Cambridge, MA: Harvard University Press.
- Weedon, C. (1987/1997). *Feminist practice and poststructuralist theory* (2nd edn). London: Blackwell.



**Meter or Yard: Preservice Bilingual Teachers' Strategies for Introducing Measurement Concepts to Young Students by Modifying a Classic Story**

Song An, Daniel Tillman, So Jung Kim & Josefina Tinajero

The University of Texas at El Paso

**Abstract**

*The current study explored bilingual preservice early childhood teachers' (n=98) strategies for integrating mathematical topics into their own version of The Three Little Pigs. The overall findings showed that almost all of the topics from pre-K to third-grade Measurement and Geometry domains were found in the stories collected from the preservice teachers. The study provided empirical evidence of the participants' innate capacity to develop original stories to serve as resources for teaching mathematics, as well as having the potential to integrate mathematics and literacy for teaching early childhood students. The findings suggest that teachers' original stories containing measurement themes presented an alternative approach for young students to develop fluency in mathematics in two languages while at the same time acquiring an understanding of how to shift their thinking between using the metric system (meters) and the English system (yards) when measuring objects.*

**Keywords:** *Mathematics education, early childhood education, literacy integration, interdisciplinary teaching, mathematical bilingualism.*

## Meter or Yard: Preservice Bilingual Teachers' Strategies for Introducing Measurement

### Concepts to Young Students by Modifying a Classic Story

Early childhood education often presents an unbalanced curriculum concerning the teaching of reading and mathematics: Researchers have found that time dedicated to teaching mathematics is considerably less than for other school subjects, particularly reading (Engel, Claessens, & Finch, 2013). Partially because of the comparatively limited instructional time dedicated to mathematics, many topics, such as measurement, are often overlooked by early childhood educators during their daily classroom activities (Van den Heuvel-Panhuizen & Elia, 2011). In addition, early childhood teachers often have misconceptions or limited knowledge about teaching certain mathematical topics. Geometric thinking, for example, generally involves drafting mental representations via perceptual measurement and spatial reasoning (Battista, 2007; van Hiele, 1999). Misconceptions about teaching measurement are prominent among early childhood educators, and the teaching strategies for measurement are often isolated from other mathematical content and other school subjects (Lee & Ginsburg, 2009; Uscianowski, Almeda, & Ginsburg, 2020).

In geometry and measurement education, limited content knowledge often produces instruction during which teachers over-focus on introductory fundamentals, such as the recognition of basic shapes and having children compare sizes (e.g. pizzas in various sizes such as large, medium and small), frequently re-teaching concepts that students have already mastered (Engel, et al., 2013; Mulligan, 2015; Smith, Males, & Gonulates, 2016; Tan Sisman & Aksu, 2016). Researchers of early childhood education have noted that lessons labeled as appropriate for teaching measurement topics were often severely restricted in scope—covering length and area but not much else—and generally provided help related to procedural competence and fact memorization (Blume, Galindo, & Walcott, 2007). Studies have also shown that the traditional *formula-based* approach to instruction can sometimes hinder students' conceptual understanding of measurement; instead, effective teaching of measurement appears to require that teachers make explicit the instructive connections among several mathematical domains, including geometric and algebraic reasoning (Keuch & Brandt, 2020; Smith, van den Heuvel-Panhuizen, & Teppo, 2011).

This is further complicated in bilingual classrooms where math instruction might be in English. Math is often thought of as a universal language. However, mathematics discourse requires children to think, explain, reason, articulate patterns and generalizations, and use representations to support their claims. Research reveals the benefits of problem-solving for developing number concepts and skills (Turner & Celedón-Pattichis, 2011). Unfortunately, research also documents that bilingual children are often underestimated in their capacity to solve mathematics word problems. Moreover, not all children have equal access to problem-solving-rich instruction. For example, low-income and minority students are often overrepresented in procedural, basic skills-oriented classrooms (Oakes, 2005; Pianta et al., 2002). Teaching mathematics to bilingual students requires rich and challenging learning environments.

Additionally, bilingual children often encounter notable differences between the way math is represented in their countries of origin and how they are represented in the U.S. This complicates



math instruction for many bilingual children. For example, immigrant children who may be used to the metric system may find U.S. units of measure confusing (Perkins & Flores, 2002). Children may also be confused by the lack of consistent subdivisions in English. For example, 12 inches equals 1 foot, and 3 feet equals 1 yard. Storytelling has been seen as a practice with the potential to support meaning-making in mathematics, particularly because mathematics is commonly perceived as the abstract use of symbols, signs, and numbers disconnected from children's lives (Zazkis & Liljedahl, 2009).

Given the limited research on bilingual education from a mathematics perspective, especially on the topic of "unit biliteracy" between Spanish-speaking countries' Metric System (i.e., International System of Units) and the English System (i.e., United States Customary Units), the study primarily aimed to explore the potential of developing traditional children's stories into mathematical teaching and learning resources appropriate for young bilingual children. A secondary aim of the study was to investigate preservice teachers' strategies for embedding mathematics learning components into traditional children's stories while generating their own original stories. Specifically, the research study described in this paper was conducted to empirically answer the following research questions:

1. Which geometry and measurement concepts did preservice teachers choose to embed when asked to adapt a traditional children's story?
2. How did the preservice bilingual teachers' stories represent measurement concepts through item comparisons?

## Conceptual Framework

### Children's Development of Fundamental Measurement Concepts

*Measurement concepts* can involve the determination of attributes such as space, weight, time, temperature, luminosity, and other qualities (Clements & Stephan, 2004). Among the basic measurements, the concept of length is often the first to be introduced to young mathematics learners (Van den Heuvelpanhuizen & Elia, 2011). Measuring length can link quantitative dimensions with geometric thinking (Sarama & Clements, 2009). Concepts connected with length, such as area and volume, become more cognitively challenging as the level of dimensions are increased (Gomezescobar, Guerrero, & Fernández-Cézar, 2020). Comparing (i.e., checking the difference between two or more items) as the fundamental process in measurement is the key focus in early childhood curriculum (NCTM, 2000, 2006). During the preschool stage, young children are expected to conduct simple and direct comparison activities based on physical and tangible materials such as "my teacher is taller than me," "dad's shoes are bigger than mine," "ice is colder than water," "a rock is heavier than a tissue paper," "I want to play five more minutes" and "my friend got more candies than me" (Charlesworth, 2015). From the kindergarten grade, students are expected to conduct measurements with "non-standardized units" to quantify their comparison results (NCTM, 2000, 2006). For example, students are anticipated to tell teachers that "David can jump across three tiles while Jane can jump across four tiles on the floor, and "the size of the desk is equivalent to about four chairs" (Charlesworth, 2015; van de Walle, Karp, & Bay-Williams, 2013).

One of the key barriers to young students' learning of measurement is an understanding of how and why units can be equally partitioned without gaps or overlaps, such as when a rectangle is divided into equivalent quadrants. Researchers noticed that students offered intensive practice on constructing and visualizing can learn to conceptually connect rows, columns, and elongated structures with measurement (Harris, Logan, & Lowrie, 2023; Zacharos, 2006). In addition to identifying and subdividing shapes, students also learned to mentally measure objects (Szilágyi, Clements, & Sarama, 2013).

Another challenge to learning the topic of measurement is adapting to the use of different types of units. Previous studies have shown that students were confused when asked to perform measurements with mixed sizes, such as inches and feet. For example, learners mistakenly believed they needed to change their unit of measurement for reasons based on a misunderstanding of basic measurement concepts (Cheeseman, McDonough, & Ferguson, 2014; Sarama et al., 2021). Research has also shown that students from 4<sup>th</sup> to 8<sup>th</sup> grades who did understand the fundamental concepts involved in measurement were able to successfully calculate the lengths of objects using arbitrary starting points on a ruler (Tan Sisman & Aksu, 2016; Kamii, 2006).

### **Teaching Mathematics through Children's Stories**

Pedagogy connecting mathematics and literacy across K-12 education has been previously explored (Koellner, Wallace, & Swackhamer, 2009; Livy et al., 2023; Siebert & Jo Draper, 2008). However, mathematics and literacy are regularly taught and assessed as two stand-alone subjects in common educational practice. This context provides an opportunity to further investigate methods and impacts that integrate mathematics instruction with literacy education using children's stories (Saracho & Spodek, 2009). Previous research has found that providing high-quality mathematics-themed stories increased students' self-efficacy toward mathematics while motivating teachers' development and implementation of innovative mathematics learning activities (Jett, 2018).

Children's storybooks can be used to enable young students to conceptually understand mathematics (Biemiller & Boote, 2006; Nurzayyana, Putra, & Hermita, 2021). Picture books with mathematics-themed stories can facilitate knowledge development by using multiple representations connecting abstract concepts with realistic illustrations (Livy et al., 2023). Previous scholarship provides us with empirical evidence verifying the positive results achieved from using storybooks for facilitating students' learning of mathematics (e.g., Capraro & Capraro, 2006; Purdum-Cassidy et al., 2015). However, many storybooks that claim to be mathematics-themed only have superficial connections between the story and mathematics (Flevares & Schiff, 2014; Furner, 2018). Common features expected from high-quality mathematics-themed storybooks—such as *Math Curse* (Scieszka & Smith, 1995) and *The Grapes of Math* (Tang, 2006)—include: (a) kid-friendly scenarios with increasingly challenging mathematics, (b) characters demonstrating the learning process, and (c) multiple methods presented for addressing the mathematics encountered (An et al., 2019, 2021).

Moving away from storybooks, teachers have used stories to pose mathematics word problems. Mathematical scenarios can be embedded into stories to allow students to develop problem-solving strategies for addressing challenges presented by the story narratives (Griffiths & Clyne, 1991). Stories can use various scenarios to emphasize key mathematics content from

multiple perspectives (Saracho & Spodek, 2009). Mathematical stories can facilitate mathematical thinking by providing contextual clues and making problem-solving meaningful to students by using students' names, friends' or relatives' names, and by drawing from familiar contexts such as school or community events (Celedón-Pattichis & Turner, 2012; Turner et al., 2009). Stories involved conflict or a problem that needed to be solved, and, in the case of mathematics, stories included the mathematization of some elements.

This study explored the potential of developing traditional children's stories into mathematical teaching and learning resources appropriate for children in early childhood and elementary grades. Specifically, we investigated preservice teachers' strategies for embedding mathematics learning components into their original stories.

## **Methods**

### **Research Setting and Participants**

The current study was conducted at an institution of Higher Education located on the U.S.–Mexico border, where the majority of students enrolled in the schools are both Hispanic and first-generation college attendees. By leveraging a strategic location within the Rio Grande Basin and a campus within walking distance from Mexico, this university has fostered educational resources highlighting the achievements and history of Hispanic-Americans since its establishment in 1913 as a State School of Mines and Metallurgy. Because of this unique location and history, the participants for the study were recruited from this university, specifically from the Department of Teacher Education. A total of 98 preservice bilingual early childhood educators nearing graduation and completing exams to obtain their teacher certification, which entailed performing student teaching in local schools and taking teaching methods courses, were recruited to participate in this study. Among the study's participants, 92 (93.9%) were female and 6 (6.1%) were male.

### **Research Task and Procedure**

The research task for this study was assigned to preservice bilingual teacher candidates enrolled in an early childhood and elementary-level mathematics teaching methods course. Participants were recruited from five sections of the same course, all taught by the same instructor. Teaching mathematics integrated with literacy was one of the four-week modules in all course sections, and each participant was provided equivalent learning opportunities to participate in the research task. As context for the participants, literacy-themed mathematics education resources were introduced using examples for integrating the teaching of mathematics and children's stories. Eventually, participants created their own narratives by contextualizing mathematics topics with original children's stories. Specifically, before presenting the target task, all participants were first given a series of preparatory activities that included: (1) exposure to existing samples of exemplary children's storybooks, (2) opportunities to develop or adapt original stories for children by embedding measurement-geometry-related components, and (3) occasions to exchange, review and discuss each other's original mathematically themed stories.

After completing the preparatory activities, the target activity was presented: A story development task titled *The Three Little Pigs in the 2020s* was assigned to the participants. Participants were required to develop their own novel stories based on ‘The Rule of Three’ structure borrowed from the original version of the story—namely, that there are three little pigs, and they are each building a new house. Thus, the three houses and their three builders should be prominent in the narrative. Also, each participant was requested to provide teaching suggestions along with their novel story, assuming that other educators could use the suggestions and the story for teaching mathematics in their own classrooms.

### **Data Collection and Analysis**

Written documents were collected from each of the preservice teacher participants. In total, 98 stories were collected with an average length of 436 words, along with corresponding teaching suggestions with an average length of 198 words. The research team adapted Braun and Clarke’s (2006) methods for reflective thematic analysis (RTA) to conduct the data analysis process. The data analysis’s main aim was identifying and examine the mathematical themes and topics that participants portrayed in their original stories inspired by the classic Three Little Pigs. The stories collected from participants were analyzed by a team of researchers who independently followed the same procedure. First, each researcher reviewed each of the stories by separating those with *quantifiable comparison information* (e.g., “house A is 9 feet tall and house B is 12 feet tall”) from the stories *without* quantifiable comparison information (e.g., “house A is larger than the house B”). Next, the researchers conducted open coding to create raw code units (e.g., “number of windows,” “size of the swimming pool,” “height of room”). Based on the raw code units developed, the researchers then characterized related code units into initial measurement/comparison categories based on similar attributes (e.g., *length, area, time, weight, temperature, and speed*). Finally, the researchers generated the main themes by consolidating subthemes and topics to be reported, during which the identified themes were compared iteratively, and cases with discrepancies were resolved by re-coding collectively through negotiations.

### **Results**

From the 98 collected stories, a total of 336 coding units (e.g., “roof is 30 feet tall”, “wind is 60 mph”, “12 windows in the room”) were identified during the open coding stage. Similar and related code units were sorted and categorized into 20 specific topics. These specific topics were further arranged into four main categories: (1) *size comparisons*, (2) *spatial-structural comparisons*, (3) *safety comparisons*, and (4) *usefulness comparisons*. The general categories and specific topics that emerged from the different stories, as well as their corresponding counts and frequencies, are displayed in Table 1. Among the general categories, *size comparisons* was the most prevalent theme and was found at least once in each of the stories developed by the preservice teachers.

**Table 1.**

## Story Themes and Topics of House Comparisons

Themes and Topics of House Comparisons	Counts/Rates (n=98)
<b>Size Comparisons</b>	
2D-area of house dimensions	87 (88.8%)
3D-volume of house dimensions	40 (40.8%)
1D-Length, width, height, perimeter of house dimensions	28 (28.6%)
Relative size and partition of spaces	22 (22.4%)
<b>Spatial-Structural Comparisons</b>	
Shape of house frame (e.g., cube, pyramid)	31 (31.6%)
Degree of the roof angle	12 (12.2%)
Symmetrical/non-symmetrical design	8 (8.2%)
Location of the house & direction house is facing	6 (6.1%)
<b>Usefulness Comparisons</b>	
Room temperature, energy efficiency in winter or summer	15 (15.3%)
House building materials	15 (15.3%)
Sanitation, cleaning frequency, and methods	6 (6.1%)
Space for social distancing, privacy levels	6 (6.1%)
Total/unit price or cost of house	5 (5.1%)
Years old, degree of aging of building	2 (2.0%)
<b>Safety Comparisons</b>	
Size, number of windows, brightness of rooms	16 (16.3%)
Strength, height, and depth of foundations	9 (9.2%)
Security levels, security equipment	8 (8.2%)
Time for fire to spread, resistance to fire/wind/water	8 (8.2%)
Emergency exits and disaster readiness	7 (7.1%)
Thickness, structure, color of the walls/fences/roof	5 (5.1%)

Next, representative excerpts featuring each of the measurement categories identified will be presented to demonstrate the methods employed by the preservice teachers to contextualize mathematical learning elements into literacy activities.

**Size Comparisons**

*Size comparisons* was the most common category of coded units within the stories collected. Over 170 different scenarios were introduced by the participants. These scenarios covered a wide range of topics such as: [1] length, width, height, and perimeter of items (e.g., “height of roof,” “length of fence,” “perimeter of wall,” “depth of pool”); [2] the area of items (e.g., size of lot, house, living room, kitchen, closet,); [3] the capacity of the rooms (e.g., volume of the garage, storage room, fridge, water tank); and [4] the ratios of spaces (e.g., bedroom size versus living room size, internal room size versus exterior yard-space). For example, one of the stories collected from teacher-candidate Anna (all names employed in this paper are pseudonyms) introduced several one-dimensional measurement facts:

The first little pig decided that his home would have walls that were very thick. This meant that the bricks that he would use for his home were going to be 4 inches wide, 2 inches in height and 8 inches long. Each individual brick would have a surface area of 112 inches squared. The first little pig installed a door that was shaped like a rectangular prism. The door was 3 inches thick, the width was 36 inches, and the height was 84 inches. He built a chimney that was 11 inches high, its length was 8 inches, and the width was 7 inches. The total surface area of the chimney was 442 square inches. The first little pig also decided to put a brick wall all around his house in the shape of a square with each side being 48 feet to keep intruders out and would have a height of 7 feet tall. The perimeter of the wall would be 194 square feet.

Anna presented several measurement facts that were based on quantitative data.

Some of the other teacher candidates incorporated proportional information into their story to compare, for example, the relative size between rooms (e.g., living room versus bedrooms, kitchen versus bathrooms, master bedroom versus guest bedrooms). These mathematical story elements went beyond Anna's quantitative facts by providing proportional reasoning opportunities to the young readers. For example, teacher-candidate Belinda highlighted in her story the size ratio between the house and the yard, along with the positive and negative aspects resulting from each arrangement. In her story, Belinda stated:

Each of the three pigs has a lot with 10,000 sq. ft. Pig number 1 decided to divide 10% of the land for the front yard, 40% of the land for the house, and 50% of the land for backyard. Once the house was built, he realized he had made an awesome decision by asking for a big backyard. In this backyard he could play, exercise and do many other things without having to leave his house. Pig number 2 decided to use 90% of the land for house and only leave the minimum 10% for making front yard and no backyard. This 9,000 sq. ft. house seemed great at first but later Pig number 2 realized the drawbacks of living without a backyard. He could only walk up and down the stairs if he wanted to exercise. If he wanted to run or just breathe fresh air, he has to go to the nearest park which is over one mile away.

Some of the collected stories employed comparisons of the houses that focused on measurement data from the three spatial dimensions: how long, how wide, and how tall the houses were, along with a discussion of how different sizes might impact the occupants' lives. Teacher-candidate Claudia used her story to illustrate how, even with the same volume, the internal structure of two houses can be completely different. In Claudia's words:

The first little piggy said: "*My house is the best for holding parties. It is 100 feet tall with a total of 5 floors that you can see from 5 blocks away. I have 1 room on each floor, and each room is 10 long and 10 feet wide*". But on the day of the party, no one really fit. The guests had to run all the way up and down the stairs to get from one room to another it was so tiring and squished. The second little piggy said: "*My house is so spacious for holding parties. My house is 10 feet tall and I have 5 rooms on the same floor. Each room measures 20 feet long and 10 feet wide*". But on the day of the party, the giraffe hurt her neck so bad from being bent over all

day. The ceiling was just way too low. The last little piggy said: “*My home is perfect for party. My house has two stories. My living room is 20 feet high, 20 feet wide and 25 feet long*”. On the day of the party everyone fit just fine and no one have to be squished or run up and down or hunch over at all.

Claudia’s narrative shares a tale about different occupants, each living in houses with the same 10,000 square feet volume—however, one house has five rooms, one on top of the other, stacked as a five-floor building. In contrast, the other house has five rooms next to each other, all on the same floor.

### **Spatial-Structural Comparisons**

*Spatial-structural comparisons* was another major theme identified within the stories collected: A total of 56 coded units were categorized into this theme during data analysis. In particular, the comparison of geometrical shapes recurrently emerged in the narratives. Three-dimensional shapes used in the stories as house structures included cubes, spheres, half-spheres, cones, triangular-based pyramids, pyramids, cylinders, triangular prisms, and rectangular prisms. The relative locations and directional orientations of the houses, along with other geometrical features, such as symmetrical versus non-symmetrical designs, were also present in many of the stories. For example, teacher-candidate Dina compared the three most popular real-world roof shapes by describing the positive and negative aspects of flat roofs, gable roofs, and arched roofs. Specifically, Dina narrated:

The first pig bought a small one-story house with a flat roof. He loved the fact that it was cheap and easy to clean. However, his happy life did not last long because the first couple of days, it poured rain. The first day the little pig did not worry about anything because he had a brick house now and the water was not affecting his house immediately. With excessive water and time, the water was damaging the plane roof. Because it was plane, the water was staying on the roof damaging the roof. The water damaged the roof and made it to fall down. The second pig bought a different house from the first pig. He decided to get a two-story house with a gable roof. He loved his house with the triangular shape roof. He was not worried about the heavy rain because the roof was dropping the water into the ground until the hurricane came and ripped the roof off.....

Participants in this study tended to relate houses to three-dimensional (3D) geometrical shapes while using their stories as a context to introduce characteristics of those 3D shapes, such as pyramids with different types of bases and so forth. For example, teacher-candidate Erna embedded information about the vertices and the edges of geometrical shapes into her story. She said,

.....the piggy X created a house of a square based pyramid. He noticed that his house contained five faces in total. The four side faces are triangles, and the base is a square. He believed that by creating this type of shape it would never be blown away. He also realized that his house had eight edges and five vertices. Meaning that all the triangles had equal amounts of edges creating an equilateral square pyramid home. The piggy Y created a house of a triangular prism. Even though it

looks like a small house, there was a lot of space inside with a fabulous high ceiling. He noticed that his house contained five faces in total. He noticed the three of the faces were triangles and were congruent to one another. He also came across the fact that his house contained nine edges and six vertices in total. The piggy Z created a cube home.....

By comparing a pyramid-shaped house with other options for house designs, including a cube-shaped house, Erna's story showed how to quantify each house based on its different 3D shapes.

While many participating teachers' stories introduced geometrical terms and qualitatively compared various two-dimensional or three-dimensional shapes, teacher candidate Fran quantitatively demonstrated the volumes and surface areas for houses built with different shapes. An excerpt of her story, shown below, shows how Fran incorporated a series of three-dimensional geometrical shapes such as half-spheres, cubes, and triangular prisms, along with a discussion of the mathematical values for their volumes and surface areas:

.....the final figure of first pig's house was a half-sphere. This dome-shaped house has a radius of 9 yards. To install the air conditioning system, the second pig needs to select equipment that can serve the volume of  $6\pi$  cube yards for this house. To paint the exterior wall, the second pig needs to prepare enough paint that can cover the surface area of  $243\pi$  square yards for this house. The second pig's house was simple. It was in the shape of a cube with the plain roof made of wood. All sides have the same length of 10 yards. The second pig needs to have air conditioning system that can serves the volume of 1000 cube yards and to prepare enough paint that can cover the surface area of 600 square yards. The third pig's house has a triangular base, the house was pretty much a tall triangular prism all made of glass.....

Although Fran's story went beyond the early childhood education level, it demonstrates that the traditional story for early childhood students could be used with upper elementary level mathematics topics by introducing formulas such as  $V_{\text{cube}} = \text{side} \times \text{side} \times \text{side} = \text{side}^3$ , and  $TSA_{\text{cube}} = 6 \times \text{side}^2$ .

### **Safety and Usefulness Comparisons**

*Usefulness comparisons*, together with *safety comparisons*, were two major themes emerging from our coding results. About one-third of the stories incorporated these themes in conducting mathematical comparisons. A variety of units with non-length attributes were also noted in the stories, and these additional quantifiable-measurement attributes included: time, such as minutes, hours, days, and years; weight, such as pounds, kilograms, and tons; temperature, such as Celsius and Fahrenheit; and others such as rainfall. Qualitative comparison topics were also encountered across the stories, including sanitation, cleaning methods, privacy levels, directional orientation, security techniques, disaster readiness, construction materials, and paint colors. For example, Gina wrote:



The first little pig, Flidder, used 400 bricks to build his house. He chose the thickest brick that cost \$4 per brick. Therefore, Flidder's total cost for building his house was \$1,600. The second little pig, Fifer Pig, used 1,200 bricks to build her house. She chose the medium thick brick that cost \$2 per brick. Therefore, her total cost for building her house was \$2,400. The third little pig, Practical, used 1,500 bricks to build his house, and he spent \$1 per brick. Therefore, his total cost for building his house was \$1,500. One day, a powerful storm hit the town, and the three little pigs' houses were put to the test. It turned out that the wind was blowing at a speed of 70 miles per hour. Flidder's house could take the wind pressure up to 400 pounds per square foot; Fifer's house could take the wind pressure of 300 pounds per square foot, and Practical's house could only take the wind pressure of 100 pounds per square foot.....

Gina generated her story based on a scenario involving money and the relationship between the unit price for bricks and their wind resistance levels.

Natural disasters were one of the most common *dramatic conflicts* participants employed in their stories. Hurricanes with heavy rainfall, flooding, tornados with intense winds, earthquakes, fires, blizzards, and heat-waves were all examples of natural disasters that served as *dramatic conflicts* within the stories, while the associated destruction-level inflicted on the different house designs often provided for plot points within the narrative. For example, Helen wrote:

.....the last storm that hit close to the place they were about to live. The storm with 2-inch of rain per hour for 3 days flooded the whole town. The three little pigs wanted to live together, but they had very different ideas in mind of what and how they wanted the house to be. The younger pig, carefree and without experience, constructed a three-story house with only 2 feet of elevation from its foundations. He planned that if a flood would happen, he could get to the third floor and refuge there. The middle pig constructed his house with an elevation of 6 feet from the ground. His roof was totally flat and had a door that could take him to the roof in case of flood. The last pig, the oldest, constructed a two-story house with an elevation of 12 feet from the ground, in the shape of a square and with a hexagonal roof. He had 2 emergency exit doors.....

Helen developed a story with a rainstorm setting that generated dramatic conflict when the elevation levels of the house foundations were contrasted with the floodwater's rising levels.

Temperature was also brought up by participants in their stories, as a measurement for indicating the levels of heat or cold that the story characters experienced. In some stories, houses with different features were compared based on their ability to regulate temperature. The story's conflict often included whether the house was an environment suitable to live inside or not. While some stories compared temperatures qualitatively by using words such as *hot*, *warm*, *cold*, or *freezing*, a few of the participants quantified temperature by means of degree units, either in Celsius or Fahrenheit, to measure the level of hotness or coldness. For example, Teacher Isaac narrated in his story:

.....then summer arrives, and the summer in the Sun Village is crazy. Pixie and Piper complain a lot because their house was so hot and their air conditioners were not able to cool down the house. Their houses are facing to the south. The dark-colored roofs kept absorbing the heat. The 12 door-sized windows in front of their houses are also exposure to the sunlight. The temperature inside of the house is over 100 degrees during the day. On the other hand, Pinky was so comfortable in her north-facing house with a temperature around 80 degrees. The white-colored roof deflected most of the heat. The 8 oak trees in front of the house also shaded most of the sunlight. In the afternoon the sun was at the back of her house.....

Isaac discussed the factors that can impact room temperature, including, for example, whether the color of the roof and exterior walls reflect or absorb the heat from sunshine and whether shades are used to block the sunshine from entering windows.

### **Discussion**

The current study explored bilingual preservice teachers' strategies for integrating mathematical topics into literacy activities to investigate the possibility of offering teacher-developed math-themed literacy resources for bilingual classrooms. The overall findings showed that almost all of the topics from pre-K to third-grade *Measurement and Geometry* domains were found in the stories collected. Findings also reveal that many concepts were also suitable for upper elementary grades.

The study provided empirical evidence of the participating preservice teachers' capacity to develop original stories to serve as mathematics teaching resources and the potential for providing instruction in mathematics and literacy. Even though mathematics-themed children's storybooks appear abundantly available in bookstores and school libraries, these books are often exclusively focused on *Numbers and Operations*; in contrast, measurement-oriented stories such as those developed during this study are rarely found among available publications. The topic of measurement is best taught not by ignoring but rather by emphasizing the many connections with other major domains of mathematics, including geometry, algebra, proportional reasoning, quantitative reasoning, and data analysis (Common Core, 2010; NCTM, 2000). When they first begin to learn about measurement, young students are often encouraged to start by identifying the different dimensions of objects, such as their height and width. In the classroom, instructional activities can be designed to integrate a variety of mathematical topics together into a unified learning experience—and this can be facilitated by using stories with mathematics-themed narratives. The results from our research study demonstrate that original stories, including those written by teacher candidates responsible for teaching mathematics and developing biliteracy, might be a particularly useful pedagogical opportunity presently untapped.

Bilingual early childhood education, particularly two-way dual language bilingual programs, are being implemented by many school districts in the United States. Highly qualified bilingual teachers can develop young students' language abilities in both English and Spanish. However, bilingual education programs should go beyond getting students to be "bilingual"—students should also be expected to be "mathematically biliterate." This means using mathematical discourse and understanding the differences between notational differences and measurement

systems. For young immigrant students, for example, their parents may use the “metric system” at home. The “English system” could lead to confusion for these students. Without a seamless transition of measurement units between the two systems, bilingual students and their families may struggle to go through a “numeral translation” process when perceiving the unacquainted, culturally different English systems such as “1 pound= 0.45 kilograms”, “1 mile= 1.61 kilometers”, “1 gallon=3.79 liters”, and “100 degrees Fahrenheit=37.78 degrees Celsius”. Teachers’ original stories with measurement themes reported in the current study presented an effective approach for young students to develop their fluency in mathematical bilingualism and experience the inherent cultural differences.

One of the noteworthy similarities among many of the stories collected was an emphasis on presenting examples of *measurement reasoning* where characters collected measurement data that could be compared, both by the characters in the story and by the story’s readers. Many of the stories offered opportunities for young students to make mathematical comparisons while being guided by the narrative and the characters in the stories. Then, the students were encouraged to form conclusions based on their best mathematical rationale. Several of the stories chose to avoid having a correct answer. Instead, they offered the reader opportunities to evaluate the information provided and then apply critical thinking skills toward developing an appropriate rubric of their own. For example, in one story, the overall square footage of the house was set because of their limited materials; however, the pigs could choose to divide the interior space. But they could have decided to have a bigger living room at the cost of a smaller bedroom or vice versa. In another story scenario, there was a limited budget for bricks, and the pigs who selected better-quality bricks could not purchase as many as those who bought lower-quality bricks.

Learning to make mathematical comparisons is essential for young learners as they develop an understanding of measurement through original stories with mathematics-themed content. Students can be provided with structured opportunities to investigate measurement. For example, the attribute of *length* can be used as visual comparisons for preschoolers to measure body heights or arm lengths among classmates. Units for *length* included in the stories collected during this study generally focused on: (a) large-scale units in *miles* or *kilometers*, such as when discussing the distance from home to hospital, (b) medium-scale units in *feet*, *yards*, or *meters*, such as when describing the perimeter of a fence, and (c) small-scale units in *inches* and *centimeters* such as when talking about the thickness of a brick. These stories often aimed to help young students learn *measurement* concepts and practices via narratives that connected mathematics with familiar items and meaningful contexts from their day-to-day lives.

## Conclusion

As a method for encouraging young students to make connections between their own home family life and the mathematical concepts they are learning in the classroom, stories containing mathematics content might be a transformative educational pedagogical practice. By generating a learning environment that facilitates young students’ essential skills of *thinking*, *interacting*, and *risk-taking* (NAEYC, 2009), analysis of the stories developed by this study’s participants confirmed that preservice teachers can embed dynamic mathematics learning tasks in their own original children’s storybooks. Furthermore, their narratives were developmentally appropriate

examples of fictional, sense-making contexts (An et al., 2018, 2021; Jett, 2018; Nurzayyana et al., 2021). Our study's findings indicate that story-based mathematics teaching can serve as an interdisciplinary teaching strategy and merits additional notice among early childhood teacher education programs and researchers. This study, along with previous teacher education research, provides empirical evidence that creating original mathematics-themed stories can help preservice teachers deepen their understanding of mathematical concepts (Livy et al., 2023; Purdum-Cassidy et al., 2015) while also improving their effectiveness at teaching mathematics content (An et al., 2019; Jett, 2018; Livy et al., 2023) where cultural differences may also be present.

Several limitations must be noted. First, the participants in this study were ethnically homogenous, predominately Hispanic female students who speak Spanish at home. The story development task was required to be written in English only, while some participants' capacity of expression was restricted as Spanish is their native language. Moreover, there was no evaluation of pedagogical proficiency for our participants, and therefore, their story development capacity, background of linguistic and cultural differences, and mathematical knowledge are inconsistent. Despite these limitations, our investigation offered empirical evidence about the breadth and depth of customized educational resources generated by preservice bilingual educators. We invite future research to specify the effects of teachers' implementation of their original stories in bilingual early childhood classrooms and to assess the possible impact on students' reading and math achievement.

### **Implications**

The results from this study suggest several practical implications for math instruction, especially for young bilingual learners. First, when teaching math in bilingual programs, it is vital that teachers incorporate an interdisciplinary teaching strategy that connects math to other content areas such as social studies, fine arts, and literacy. One of the basic requirements for early childhood teachers is the ability to incorporate real-life contexts in mathematics lessons to help students develop a deep and meaningful understanding of mathematics (NCTM, 2000; van de Walle, Karp, & Bay-Williams, 2013). Teaching bilingual children mathematics concepts (e.g., measurement and comparison) through math stories can be an effective teaching strategy since such a curriculum can assist bilingual children in developing a concrete understanding of abstract math concepts and reduce feelings of mathematics intimidation through familiar characters and interesting settings (Celedón-Pattichis & Turner, 2012).

While mathematics is domain-specific with its own specialized vocabulary, numbers, and symbols (Bermejo et al., 2021), mathematics and literacy often share a set of thinking strategies such as making connections, predicting, and asking questions (Fogelberg et al., 2008). Considering the relationship between mathematics, language, and literacy, teachers need to provide many opportunities for bilingual students to explore math concepts through authentic stories so that they can bring joy to their learning processes and fully engage in math learning. Through scaffolded instruction focusing on intriguing stories and students' day-to-day life experiences rather than on algorithms and rote memorization, teachers can create engaging and interactive learning environments rich in mathematical language.

## References

- An, S. A., Hachey, A. C. Kim, S., & Tillman, D. A. (2023). When  $10 \neq$  ten: Teachers develop original stories to conceptualize numeral transition. *Journal of Early Childhood Teacher Education*, 44(1) 22-41.
- An, S. A., Kim, S. J., Tillman, D., & Tinajero, J. (2019). Preservice teachers' development of literacy-themed mathematics instruction for early childhood classrooms. *International Journal of Early Childhood*, 51(1), 41-57.
- Battista, M. T. (2007). The development of geometric and spatial thinking. In F. Lester (Ed.), *Second handbook of research on mathematics teaching and learning (vol. 2)* (pp. 843–908). Charlotte: Information Age Publishing.
- Bermejo, V., Ester, P., & Morales, I. (2021). How the language of instruction influences mathematical thinking development in the first years of bilingual schoolers. *Frontiers in Psychology*, 12, 533141.
- Biemiller, A., & Boote, C. (2006). An effective method for building meaning vocabulary in primary grades. *Journal of Educational Psychology*, 98(1), 44-62.
- Blume, G. W., Galindo, E., & Walcott, C. (2007). Performance in measurement and geometry from the viewpoint of Principles and Standards for School Mathematics. *Results and interpretations of the 2003 Mathematics Assessment of the National Assessment of Educational Progress*, 95-138.
- Braun, V., & Clarke, V. (2006). Using thematic analysis in psychology. *Qualitative research in psychology*, 3(2), 77-101.
- Capraro, R. M., & Capraro, M. M. (2006). Are you really going to read us a story? Learning geometry through children's mathematics literature. *Reading Psychology*, 27(1), 21-36.
- Celedón-Pattichis, S., & Turner, E. (2012). "Explicame tu respuesta": Supporting the development of mathematical discourse in emergent bilingual kindergarten students. *Bilingual Research Journal*, 35(2), 197-216. doi:10.1080/15235882.2012.703635
- Charlesworth, R. (2015). *Math and science for young children*. Cengage Learning.
- Cheeseman, J., McDonough, A., & Ferguson, S. (2014). Investigating young children's learning of mass measurement. *Mathematics Education Research Journal*, 26, 131-150.
- Clements, D. H., & Stephan, M. (2004). Measurement in pre-K to grade 2 mathematics. *Engaging young children in mathematics: Standards for early childhood mathematics education*, 299-317.
- Common Core State Standards Initiative. (2010). *Common Core State Standards for English language arts & literacy in history/social studies, science, and technical subjects*. Washington, DC: CCSSO & National Governors Association.
- Engel, M., Claessens, A., & Finch, M. A. (2013). Teaching students what they already know? The (mis) alignment between mathematics instructional content and student knowledge in kindergarten. *Educational Evaluation and Policy Analysis*, 35(2), 157-178.
- Flevaris, L. M., & Schiff, J. R. (2014). Learning mathematics in two dimensions: A review and look ahead at teaching and learning early childhood mathematics with children's literature. *Frontiers in Psychology*, 5, 459-473.
- Fogelberg, E. Skalinder, C., Satz, P., Hiller, B., Bernstein, L., Vitantonio, S. (2008). *Integrating Literacy and Math: Strategies for K-6 Teachers*. Guilford Press.

- Griffiths, R., & Clyne, M. (1991). Once upon a Time... *Australian Mathematics Teacher*, 47(1), 10-13.
- Gómezescobar, A., Guerrero, S., & Fernández-Cézar, R. (2020). How long is it? Difficulties with conventional ruler use in children aged 5 to 8. *Early Childhood Education Journal*, 48(6), 693-701.
- Harris, D., Logan, T., & Lowrie, T. (2023). Spatial visualization and measurement of area: A case study in spatialized mathematics instruction. *The Journal of Mathematical Behavior*, 70, 101038.
- Jett, C. (2018). The effects of children's literature on preservice early childhood mathematics teachers' thinking. *Journal of the Scholarship of Teaching and Learning*, 18(1), 96-114.
- Kamii, C. (2006). Measurement of length: How can we teach it better?. *Teaching children mathematics*, 13(3), 154-158.
- Keuch, S., & Brandt, B. (2020). 'You Are Already Bigger Than the Giraffe!'—The Use of Adjectives in Measurement Activities in Kindergarten. In *Mathematics Education in the Early Years: Results from the POEM4 Conference, 2018* (pp. 369-384). Springer International Publishing.
- Koellner, K., Wallace, F. H., & Swackhamer, L. (2009). Integrating literature to support mathematics learning in middle school. *Middle School Journal*, 41(2), 30-39.
- Lee, J. S., & Ginsburg, H. P. (2009). Early childhood teachers' misconceptions about mathematics education for young children in the United States. *Australasian Journal of Early Childhood*, 34(4), 37-45.
- Livy, S., Muir, T., Trakulphadetkrai, N. V., & Larkin, K. (2023). Australian primary school teachers' perceived barriers to and enablers for the integration of children's literature in mathematics teaching and learning. *Journal of Mathematics Teacher Education*, 26(1), 5-26.
- Mulligan, J. (2015). Looking within and beyond the geometry curriculum: connecting spatial reasoning to mathematics learning. *Zdm*, 47, 511-517.
- Nurzayyana, A., Putra, Z. H., & Hermita, N. (2021). Designing a Math Picture Book to Stimulate Primary School Students' Understanding of Properties of 2-D Shapes. *Journal of Teaching and Learning in Elementary Education*, 4(2), 164-179.
- Oakes, J. (2005). *Keeping track: How schools structure inequality*, 2nd, New Haven, CT: Yale University Press.
- Perkins, I. & Flores, A. (2002). Mathematical notations and procedures of recent immigrant students. *The National Council of Teachers of Mathematics* 7(6), 346-351.
- Pianta, R., La Paro, K., Payne, C., Cox, M. and Bradley, R. (2002). The relation of kindergarten classroom environment to teacher, family and school characteristics and child outcomes. *The Elementary School Journal*, 102 (3), 225 – 238.
- Purdum-Cassidy, B., Nesmith, S., Meyer, R. D., & Cooper, S. (2015). What are they asking? An analysis of the questions planned by prospective teachers when integrating literature in mathematics. *Journal of Mathematics Teacher Education*, 18, 79-99.
- Sarama, J., & Clements, D. H. (2009). Building blocks and cognitive building blocks: Playing to know the world mathematically. *American Journal of Play*, 1(3), 313-337.
- Sarama, J., Clements, D. H., Baroody, A. J., Kutaka, T. S., Chernyavskiy, P., Shi, J., & Cong, M. (2021). Testing a theoretical assumption of a learning-trajectories approach in teaching length measurement to kindergartners. *AERA Open*, 7, 23328584211026657.

- Saracho, O. N., & Spodek, B. (2009). Educating the young mathematician: The twentieth century and beyond. *Early Childhood Education Journal*, *36*, 305-312.
- Scieszka, J., & Smith, L. (1995). *Math curse*. New York: Viking.
- Siebert, D., & Jo Draper, R. (2008). Why content-area literacy messages do not speak to mathematics teachers: A critical content analysis. *Literacy Research and Instruction*, *47*(4), 229-245.
- Smith, J. P., Males, L. M., & Gonulates, F. (2016). Conceptual limitations in curricular presentations of area measurement: One nation's challenges. *Mathematical Thinking and Learning*, *18*(4), 239-270.
- Smith, J. P., van den Heuvel-Panhuizen, M., & Teppo, A. R. (2011). Learning, teaching, and using measurement: introduction to the issue. *ZDM*, *43*, 617-620.
- Szilágyi, J., Clements, D. H., & Sarama, J. (2013). Young children's understandings of length measurement: Evaluating a learning trajectory. *Journal for Research in Mathematics Education*, *44*(3), 581-620.
- Tan Sisman, G., & Aksu, M. (2016). A study on sixth grade students' misconceptions and errors in spatial measurement: Length, area, and volume. *International Journal of Science and Mathematics Education*, *14*, 1293-1319.
- Tang, G. (2006). *The grapes of math*. Scholastic Paperbacks.
- Turner, E., Celedón-Pattichis, S., Marshall, M., & Tennison, A. (2009). "Fijense amorcitos, les voy a contar una historia": The power of story to support solving and discussing mathematical problems with Latino/a kindergarten students. In D. Y. White & J. S. Spitzer (Eds.), *Mathematics for every student: Responding to diversity, grades Pre-K-5* (pp. 23-41). Reston, VA: National Council of Teachers of Mathematics.
- Turner, E. & Celedón-Pattichis, S. (2002). Mathematical problem solving among Latino/a kindergartners: An analysis of opportunities to learn. *Journal of Latinos and Education*, *10*(2), 146-169, DOI: 10.1080/15348431.2011.556524
- Van den Heuvel-Panhuizen, M., & Elia, I. (2011). Kindergartners' performance in length measurement and the effect of picture book reading. *ZDM*, *43*, 621-635.
- van de Walle, J., Karp, K. S., & Bay-Williams, J. M. (2013). *Elementary and middle school mathematics: Teaching developmentally (8th ed.)*. Pearson.
- Van Hiele, P. M. (1999). Developing geometric thinking through activities that begin with play. *Teaching Children Mathematics*, *5*(6), 310-315.
- Uscianowski, C., Almeda, M. V., & Ginsburg, H. P. (2020). Differences in the complexity of math and literacy questions parents pose during storybook reading. *Early Childhood Research Quarterly*, *50*, 40-50.
- Zacharos, K. (2006). Prevailing educational practices for area measurement and students' failure in measuring areas. *The Journal of Mathematical Behavior*, *25*(3), 224-239.
- Zazkis, R., & Liljedahl, P. (2009). *Teaching mathematics as storytelling*. Rotterdam, The Netherlands: Sense Publishers.