CASE STUDIES:

Dual Language Programs in Early Learning and the Early Grades

CHILDREN'S EQUITY PROJECT

THE CENTURY FOUNDATION

APRIL 2024

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ACKNOWLEDGMENTS

Suggested citation:

Soto-Boykin, X., Meek, S., Williams, C., Palomino, C., Alexander, B., Aponte, G.Y. (2024, April). Case Studies: Dual Language Programs in Early Learning and the Early Grades. The Children's Equity Project. **https://cep.asu.edu/resources/Operationalizing-High-Quality-Dual-Language-Programs**

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Introduction

Access to high-quality early childhood education for young children between birth and eight years old is key to future academic and personal success (Anderson et al., 2003) For these young children who are emergent bilinguals — considered as those learning two or more languages at the same time or those learning a new language after speaking their home language (called "English Learners" in the K–12 system) — dual language immersion education is the gold standard (Durán et al., 2010; Oliva-Olson et al., 2017; Steele et al., 2017).

Despite the robust body of research indicating that young emergent bilinguals who receive dual language instruction in early childhood have higher reading and math scores in later grades (Padilla et al., 2022), the most common model of instruction for emergent bilinguals is English-only instruction. This English-only immersion model, in addition to corresponding policies and learning standards that do not address children's bilingualism, are in complete opposition to our current scientific understanding of what is most effective for these young children (Barnett et al., 2007; Bialystok, 2011) and the **U.S. Departments of Education and Health and Human Services' joint policy statement on Dual Language Learners in Early Childhood Programs**.

What's more, many states' Early Learning Standards and Quality Ratings and Improvement Systems (QRIS) provide only limited mention of how to best support young emergent bilingual children (Meek et al., 2020; Meek et al., 2022). To date, only Head Start has national standards that address young emergent bilinguals (Head Start Performance Standards, 2016). While these standards are valuable, they only apply to those enrolled in Head Start. Without having an explicit set of quality indicators for dual language early care and education that can be used across various types of early childhood programs, we are missing the opportunity to provide young emergent bilinguals with the access and positive experiences they deserve to optimize their academic potentials and to remain rooted to their cultures and identities.

A critical step toward operationalizing a set of quality standards for dual language early care and education is to learn from programs that are demonstrating high levels of success across various dimensions, including how they implement their programmatic structures, language allocation, curriculum, instruction, pedagogy, assessment, family engagement and leadership, and services and inclusion of children with disabilities who are also emergent bilinguals. It is also important to identify the barriers they experience when implementing high-quality programming.

To this end, the purpose of this research brief is to report the findings from multiple case studies of high-quality dual language early care and education programs serving infants and toddlers, preschoolers, and young elementary-aged students from Kindergarten to second grade. To accomplish this aim, the research team conducted surveys and interviews with the administrators of programs and examined children's outcomes when available. They summarized strengths, as well as areas of growth when a practice was inconsistent with the most recent bilingual research. This research brief can inform best practices of the key components that are necessary to establish and sustain high-quality dual language early care and education programs for young emergent bilinguals. Furthermore, the findings of these case studies informed the development of a **high-quality framework for dual language immersion in early care and education** developed by The Children's Equity Project in collaboration with The Century Foundation.

Three Aims of this Research Brief

1. To describe how high-quality dual language programs serving infants/toddlers, preschoolers, and students in grades K–2 are implementing practices related to:

   - Programmatic structures
   - Language allocation
   - Curriculum, instruction, pedagogy
   - Assessment
   - Workforce, credentialing, and professional development
   - Family leadership and engagement
   - Services and inclusion of emergent bilinguals with disabilities

2. To identify the barriers that administrators of high-quality dual language early care and education experience when implementing the programs.

3. To highlight three exemplary programs serving infants/toddlers, preschoolers, and elementary-aged students in grades K–2, and to compare their child performance outcomes with similar programs that are English-only.

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METHOD

Participants

PROGRAMS

The programs that were selected to conduct an in-depth case study were geographically diverse, representing each region of the United States (**Table 1**). Four of the programs served infants, nine served preschoolers, and four served elementary-aged students. Three of the programs were charter schools, four were part of school districts, two had braided funding with Early Head Start/Head Start and other programs, and two were privately-owned programs. The primary language children spoke at home in these programs varied widely, ranging from 6% to 94% speaking Spanish as their home language. About half of the programs also had children who spoke a language other than English or Spanish at home, including Haitian Creole, Arabic, Somali, and Aramaic. The language allocation of the programs varied by age group. Infants and toddlers received primarily instruction in Spanish, and preschoolers and elementary-aged students received 50% of instruction in Spanish and 50% in English.

CHILDREN

The children enrolled in these programs had families of diverse incomes, racial and ethnic backgrounds, and home languages (see **Table 2**). The percentage of enrolled children from low-income households was an average of 64%, with a range between 24% and 100%. In all programs, Latine children were the most represented, with an average of 67%, and a range of 44% to 91%. White children were the second most represented group, with an average of 30% and a range of 0% to 32%. Black children were the third most represented group, with an average of 16% and a range of 6% to 43%. Children with disabilities represented an average 13% of all enrolled, with a range of 3% to 24%.

ADMINISTRATORS

As seen in **Table 3**, six of the administrators who participated in the study were Latine(o/a), three were White, non-Latine(o/a), one was Black/African American, and one was Asian. One reported speaking only English, and another noted that they had intermediate Spanish fluency. The rest reported speaking Spanish and English, with three stating that they spoke other languages as well, including Korean, French, and Italian. The administrators' educational backgrounds were highly diverse, each having a different area of concentration, ranging from Business Administration to Bilingual Special Education. One had a master's degree in Early Childhood Education. Eight of the nine administrators had a master's

degree, and two had a doctorate in education. Their years of experience working in a dual language immersion program ranged from five to 23 years, with an average of 11 years.

Measures

DUAL LANGUAGE IMMERSION PROGRAM SURVEY

The research team developed a survey to gather information about each program's language allocation, composition of children and educators (e.g., children's demographic characteristics, ages, those with disabilities; teachers' racial and ethnic backgrounds), the language(s) educators spoke during instruction; educators' wages and highest level of education, and whether translanguaging (the use of multiple languages and modalities at the same time) was encouraged. Questions to learn more about administrators' years of experience working in dual language education settings, educational backgrounds, and language(s) spoken were also added. The survey contained 11 questions, with a combination of closed- and open-ended questions. The survey was developed on Qualtrics and disseminated electronically via email.

INTERVIEW PROTOCOL

We developed an interview protocol to gather more in-depth information about the program features. These 11 open-ended questions addressed each of the dimensions of quality we identified based on existing research and our professional experiences (e.g., leadership team, enrollment policies, curricula, pedagogy, instruction, assessment, workforce and professional development, family engagement and leadership, services and inclusion of children with disabilities, and barriers to implementing the program).

CHILD OUTCOMES

Child outcomes were operationalized as measures assessing children's outcomes on specific domains (e.g., early literacy, language), or overall development. When data was available, program administrators shared children's outcomes on the measures they were already implementing in their program. These measures varied widely by program, including Teaching Strategies GOLD, the Ages and Stages Questionnaire (ASQ), the Preschool Language Scale-5 (PLS-5) in Spanish and English, the Peabody Picture Vocabulary Test (PPVT), and state-mandated assessments. When this data was available, we gathered outcome data in Spanish and English at the beginning and end of the last school year (2021–2022), as well as children's de-identified information (e.g., ages, languages spoken at home, whether they had a disability).

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Table 1 OVERVIEW OF PROGRAMS

Program	Region of the U.S.	Age Groups	Type and Funding of Program	Primary Language(s) Children Speak at Home	Language Allocation
Esperanza Center	Northeast	Infant–PK	Charter school	76% Spanish, 25% a language other than Spanish or English	**Infants/toddlers:** Primarily in Spanish **Preschoolers:** 50% in Spanish, 50% in English
Luna DLL Center	Southeast	Infant–PK	Educare/ Head Start	62% Spanish; 38% English	**Infants/toddlers:** Primarily in Spanish Preschoolers: 50% in Spanish, 50% in English
Little Hands	Southeast	Infant–PK	Early Head Start/state-funded voluntary preschool	82% Spanish, 16% English, and 2% a language other than Spanish or English	**Infants/toddlers:** 80% Spanish, 20% English **Preschoolers:** 50% in Spanish, 50% in English
Albizu Early Childhood Center	West	Toddlers–PK	Public school district	50% Spanish, 48% English, 2% a language other than Spanish or English	50% Spanish, 50% English
Jardin Infantil Center	West	PK	Public school district	50% Spanish, 50% English	50% Spanish, 50% English
Growing Minds	Northeast	Infant–PK	Private	46% Spanish, 35% English, 19% a language other than Spanish or English	50% Spanish, 50% English
Bright Bilinguals	Southeast	PK	Private	94% Spanish, 5% English, and 2% a language other than Spanish or English	**Infants/toddlers:** Primarily in Spanish **Preschoolers:** 50% Spanish, 50% English
Estrella PCS	Northeast	PK–elementary	Charter school	30% Spanish, 68% English, 3% a language other than Spanish or English	50% Spanish, 50% English
Maria Clara	Southeast	PK–elementary	Public school district	36% speak primarily Spanish, 91% speak primarily English	50% Spanish, 50% English
Flor Elementary	Northeast	Elementary	Public school district	6% speak primarily Spanish at home	**Kindergarten:** 60% Spanish, 50% English **Grades 1–5:** 50% Spanish, 50% English
Batey Academy	Southeast	Elementary	Charter school	41% speak primarily Spanish	**Grades K–4:** 50% Spanish, 50% English

Table 2   DEMOGRAPHIC CHARACTERISTICS OF CHILDREN ENROLLED IN EACH PROGRAM

Program	Low-Income	Latine (o/a)	Black	Asian	Indigenous	White	Multi-racial	Other	Children with disabilities
Esperanza Center	79%	76%	17%	5%	0.45%	2%	0%	1%	24%
Luna DLL Center	48%	80%	18%	1%	0%	10%	0%	1%	6.4%
Little Hands	100%	83%	16%	0%	0%	0%	0%	0.88%	10%
Growing Minds	70%	52%	43%	0%	0%	0%	5%	0%	15%
Bright Bilinguals	98%	91%	6%	0%	0%	1.5%	1.5%	0%	15%
Estrella Public Charter	43%	45%	18%	0.57%	0%	32%	4%	0%	12%
Maria Clara	24%	44%	18%	0%	0%	18%	21%	0%	3%
Flor	63%	72%	3%	1%	0%	20%	3%	0%	21%
Batey	52%	61%	4%	0%	0%	30%	5%	0%	10%
Average	**64%**	**67%**	**16%**	**1%**	**0.06%**	**30%**	**4%**	**0%**	**13%**

Procedures

IDENTIFICATION OF THE PROGRAMS

Eleven schools were selected to participate in the research study. To qualify for participation, programs needed to meet the following inclusion criteria: (a) serve infants and toddlers, preschoolers, and/or young elementary-aged students from Kindergarten to second grade; (b) have an additive dual language model (e.g., two-way immersion, one-way immersion); (c) have close to 50% of children they serve be from homes where a language other than English was spoken; and (d) gather home language survey data. Exclusion criteria included programs that (a) had subtractive bilingual education approaches, such as transitional dual language instruction, and/or (b) primarily served middle- to upper-class native English speakers. Programs that did not meet these eligibility criteria were included if they focused on serving children from under-resourced communities and/or on serving children who were Latine. Maria Clara was included because although

it served children who spoke mostly English at home, more than half of the children they served were Latine. To determine whether a program was of sufficient quality, the research lead — a bilingualism early childhood education expert with over 10 years of experience — met with the administrators of each program. The researcher interviewed the administrators of the programs and asked questions to gauge the quality of the program. The questions asked were aligned with the Head Start Performance Standards to support young dual language learners and additional items considered to be quality indicators from the research (e.g., enrollment policy, dual language model, professional development of educators, etc.). Furthermore, the research team, all with several years of experience working with dual language programs, relied on their networks and existing relationships to identify quality dual language programs. Institutional Review Board (IRB) approval was secured prior to commencing the study.

ADMINISTRATION OF THE SURVEY, INTERVIEW, AND EXAMINATION OF CHILD-OUTCOME DATA

Once programs were selected and the administrators were consented, administrators were asked to complete the online Dual Language Immersion Survey electronically. They had two weeks to complete the survey and were instructed to skip questions that were not relevant to their programs. Once they completed the survey, the lead researcher conducted one-on-one interviews with each administrator. The interviews took 90 minutes to complete, and were completed over a series of sessions or all at once, depending on the administrators' availability. The researcher asked for clarification and expansions as needed, and recorded their responses on an Excel sheet. The responses were also audio and video recorded with administrators' consent. Last but not least, administrators shared de-identified child-outcome data for the 2021–2022 school year when it was available. Schools received a financial donation to each program for participating in the study.

Table 3   DESCRIPTION OF THE ADMINISTRATORS WHO PARTICIPATED IN THE STUDY

Program	Race/ethnicity	Highest level of education	Years of experience with DLI programs	Language(s) spoken
Esperanza Center	White, not Latine	Master's in International Training & Education	20	Spanish, English
Luna DLL Center	Latine	Master's in Early Childhood Education	13	Spanish, English
Little Hands	Latine	Bachelor's in Business Administration	6	Spanish, English
Albizu Early Childhood Center	Black/African American	Master's in School Leadership	7	English
Jardin Infantil Center	Asian	Master's in School Administration	3	English, Spanish, Korean
Growing Minds	Latine	Master's in Bilingual Special Education	12	Spanish, English
Bright Bilinguals	Latine	Master's in Literature	5	Spanish, English, French, Italian (emerging)
Estrella PCS	Latine	Master's in Spanish studies/linguistics and Teaching English for Speakers of Other Languages	16	Spanish, English, French
Maria Clara	White, not Latine	Master's in Education/Reading; Montessori Certificate	5	English, Spanish (moderately fluent)
Flor Elementary	White, not Latine	Doctorate of Education in Leadership in International Studies	23	Spanish, English
Batey Academy	Latine	Doctorate in Education Leadership and Innovation	13	Spanish, English

Data Analyses

QUANTITATIVE ANALYSES OF SURVEY AND CHILD OUTCOMES

The survey data was analyzed using descriptive statistics (frequency counts, percentages, mean, ranges). Child-outcome data was evaluated by determining the percentage of children who met the national benchmarks for the measure or those with a standard score considered to be typical for children's age from a nationally representative sample. For example, for a program that measured children's language skills using the Preschool Language Scale-5, we calculated the proportion of children in the program with a standard score between 85 to 100 (range considered typical) by the end of the school year (e.g., 85% have a score of 85 to 100 by the spring of 2022). They also compared the percentage of children meeting benchmarks or standard scores considered typical with programs that were similar in terms of their composition of children (e.g., number of DLLs, similar income), type of program, and geographic location. For example, we compared how children attending a bilingual elementary school compared to those attending English-only schools in the same state and district. Then, the team created graphs to visually display children's outcomes.

QUALITATIVE ANALYSIS OF INTERVIEWS

A codebook was created to analyze the interview data collected in this study. The creation of the codebook followed an iterative process (DeCuir-Gunby et al., 2011). First, the research lead created a preliminary codebook based on the memos and observations she gathered from the interviews. The codebook included umbrella codes, parent codes, and child codes. Next, a research project assistant did a preliminary coding of one transcript to help refine the codebook. Some of these changes included collapsing some of the umbrella codes to be consistent with the overarching DLL quality indicators used in the current study, as well as combining and re-categorizing some parent and child codes. All these changes were discussed with the research lead. Next, the research lead and the research project assistant coded two out of the nine transcripts so they could determine reliability. During this round of coding, a few further modifications to the codebook were made based on any lingering discrepancies between the coders. After reliability was established, the research project assistant coded all transcripts from programs included in this brief. At this stage, all transcripts were coded using the Dedoose software for ease of coding and data synthesis.

Results

PROGRAMMATIC STRUCTURES

LEADERSHIP TEAMS

All but one program (Tiny Hands) reported having a leadership team with various roles and responsibilities, including a program director, curriculum specialist or instructional coach, family leadership and engagement director, disabilities coordinator, research and data evaluator, child-services director, nutrition specialist, etc. Although Tiny Hands only has one main director who is responsible for all aspects of the program, the administrator noted that she collaborates with an Early Head Start coordinator to guide curriculum, instruction, and coaching.

ENROLLMENT POLICY

Programs varied on their enrollment policies. Some programs base enrollment on qualification for Early Head Start/Head Start based on income, while others prioritize Spanish-speaking children. Because Esperanza Center is a two-generation program, enrollment is based on caregivers' interest and availability to participate in their adult education program. Slots at the center are allotted to specific populations, including those who speak Spanish at home, those experiencing homelessness, those in foster care, those with Individual Education Plans (IEPs), and families receiving social support services such as SNAP or TANF. At Estrella Public Charter, all living in the community are allowed to enter an enrollment lottery, in keeping with school district policy. The administrator of this program noted that because of population changes, they are implementing a new city-wide mandated equitable enrollment policy to ensure that children from low-income communities are allotted seats.

OTHER POLICIES

Programs have handbooks with policies and procedures that are available in English and Spanish to ensure all parents have access to information. For example, at Esperanza Center, there is a detailed handbook with the program's vision and mission, educational foci, enrollment policy, parent engagement and leadership policy, attendance policy, children and adults with disabilities, discipline and guidance, curricula and assessments, and staff requirements. It also has explicit guidance on how to resolve conflicts among staff and caregivers using restorative justice practices and how to ensure the program has an anti-bias culture (e.g., allowing educators and caregivers to express their cultures through dress; creating physical and emotional safety for everyone, etc.).

Discussion

Programs demonstrated strengths in having a diverse leadership team with distinct roles and responsibilities, as well as handbooks with explicit policies addressing various program aspects ranging from parent engagement and leadership, attendance, and staff requirements. One area of growth noted across most programs was the need to have an explicit enrollment policy that prioritizes children with and without disabilities who speak the minoritized language of instruction, such as Spanish, at home. Furthermore, none of the programs had enrollment policies prioritizing the enrollment of Black English-speaking children. Having enrollment policies that explicitly prioritize children who speak the non-English language of instruction, Black English-speaking children, and children with disabilities are important equity considerations in dual language programs.

LANGUAGE ALLOCATION

Programs' language allocation models varied by age group. All programs serving infants and toddlers (Little Hands, Esperanza Center, and Bright Bilinguals) reported that they provided instruction in the children's home language. For example, at Esperanza Center, educators were matched with caregivers to ensure they spoke their language and were culturally responsive. All programs serving preschoolers implemented a 50-50 model, where 50% of instruction was delivered in Spanish and 50% in English. These two languages were alternated either during the same day or every other day. For example, in Albizu Early Childhood and Jardin Infantil, one bilingual lead teacher provides instruction in Spanish in the morning, and in English in the afternoon. In six programs (Esperanza Center, Little Hands, Bright Bilinguals, Luna DLL Center, Batey Academy, and Estrella), a co-teaching model is implemented where one teacher speaks to the children in English and the other in Spanish. Materials are presented in both languages. Teachers take turns presenting instruction in their respective languages.

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In elementary schools, one program reported having a co-teaching model, and allocating the language of instruction by subject. For example, at Estrella literacy instruction is delivered in both languages while Math is delivered in English and Science is delivered in Spanish. Students in grades K–2 have two co-teachers that each provide parallel instruction in Spanish and English, and once children are in third to fifth grade, only one teacher provides instruction in both languages, depending on the subject. At Flor Elementary, Kindergarten children receive 60% of instruction in Spanish and 40% of instruction in English. Once children are in first to fifth grade, they receive 50% of instruction in Spanish and 50% in English. In first grade, the students have two teachers in the same classroom, one who provides instruction in English and the other one in Spanish. Starting in second grade and onward, the language of instruction varies by subject, and children rotate between classrooms (e.g., math in English, literacy in both languages, etc.). Materials and content are color-coded by language (e.g., graphic organizer with green text in English, and the same graphic organizer with text in Spanish) to help children make cross-linguistic connections. At Batey Academy, the school building was created with two classrooms connected with a door to facilitate the implementation of the co-teaching model and encourage teacher collaboration. Children also receive all the domain-specific instruction in Spanish and English, alternating each day.

Administrators of seven programs reported that classrooms implemented some form of translanguaging. The administrator of Bright Bilinguals noted translanguaging was not readily used, and the administrator of Jardin Infantil stated that they were not familiar with the concept. Programs in which translanguaging was encouraged or facilitated differed in implementation. For example, at Luna DLL Center, teachers do not discourage children from speaking in Spanish and English simultaneously to express themselves. At Esperanza Center, translanguaging is encouraged to help children understand directions, at the beginning of the year, to provide children with comfort, during transitions, and to support children with disabilities. At Tiny Hands, the administrator explained that educators used both English and Spanish at the same time, and they use Google Translate to support the language skills of children who did not speak either language (e.g., Haitian Creole). At Flor Elementary, the administrators and education staff partnered with researchers to intentionally explore translanguaging during social studies which applied an inquiry approach to learning. For example, children participated in activities to identify the languages they spoke with grandparents, and they engaged in a community walk to find all the different languages spoken at various parts of their neighborhoods. Three programs, including Bright Bilinguals, noted that they intentionally used cross-language connections

— or the connection between words and concepts across languages — to support children's learning, especially during vocabulary instruction. Most of the programs did not report using translanguaging throughout daily routines, during set times of instruction, or in assessments.

Discussion

Programs demonstrated strengths in having explicitly articulated language allocation models that varied based on children's ages. Infants/toddlers usually received the bulk of instruction in Spanish, while preschoolers and early elementary-grade students received 50% of instruction in Spanish and 50% of instruction in English. Consistent with the current research on language allocation models, the way this 50-50 instruction was allocated varied. Some programs split 50% of instruction in each language in one day or in alternating weeks. In elementary programs, the languages of instruction were split by either a co-teaching model or by subject. In addition, seven of the 11 programs reported applying translanguaging. However, none had explicitly embedded translanguaging within their existing language allocation models. Embedding spaces for translanguaging within existing language allocation models would further strengthen these programs.

CURRICULA, INSTRUCTION, AND PEDAGOGY

Most program administrators reported implementing commercially available curricula, such as Creative Curriculum, for preschoolers. This curriculum addresses the whole child and uses thematic units (e.g., trees, transportation, etc.) for instruction across domains including language and early literacy, cognitive development, and socio-emotional learning. This curriculum also has Spanish instructional materials, including storybooks. The majority of programs also reported implementing child-led pedagogies, including Reggio Emilia–inspired principles and Project Zero. These principles include following children's interests, collaborating

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with peers, engineering the environment to facilitate children's learning, and having the teacher serve as a guide. Project Zero is an educational framework focusing on making thinking visible and in providing children with play-based learning opportunities. Key practices of Project Zero include empowering children to lead their own learnings, creating opportunities for peer collaboration, promoting experimentation and risk-taking, encouraging imaginative thinking, and using play to explore various emotions. Two programs reported that they also created their own curricula. One program developed its own outdoor curriculum in English and Spanish. For example, in one lesson, children did their own composting to learn about having empathy for the environment while meeting their sensory needs. Another developed a curriculum based on the metrics of quality measured on the CLASS, including nurturing adult-child interactions and providing experiential learning. All programs reported translating instructional material from English to Spanish or other languages and searching for supplemental Spanish and other language books to support dual language instruction. One program reported overlaying Arabic or Spanish text on English books when no other books were available. In another program, Google Translate and community members support translation of instructional materials, especially when no program staff speak a certain language (e.g., Haitian Creole).

Curricula, instruction, and pedagogy also differed by age group. For infants and toddlers, two programs reported using Thinking Routines and Reggio Emilia-inspired principles. In these programs, caregivers engaged infants and toddlers primarily in their home language to set a strong foundation for learning English and Spanish.

Preschool classrooms implemented Creative Curricula, which included thematic, project-based learning; Reggio-Emilia principles; and program-developed curricula to engage children in rich language interactions and outdoor learning. Two programs (Flor Elementary and Esperanza Center) reported using a Multi-tiered System of Supports (MTSS) framework to make data-based decisions about which children benefit from whole-group, small-group, and individualized instruction.

Jardin Infantil and Albizu Early Childhood Center, both in the same school district, reported using the Sobrato Early Academic Language (SEAL) model, a research-supported PK–3rd grade approach created to foster the language and literacy development of emergent bilinguals by offering teachers professional development, curriculum support, and technical assistance. SEAL's four pillars include: (a) a focus on exposing children to rich language through storybooks, thematic units, etc.; (b) the creation of affirming and enriching environments that embed their culture and language; (c)

alignment between preschool and K–3 school systems; and (d) strong partnerships between parents and teachers. Pedagogical practices include opportunities to expand children's vocabulary, supporting opportunities for children to engage in conversation with each other; exposing children to quality fiction and nonfiction text;, authentic writing; storybook reading; hands-on, inquiry-based learning; and the use of graphic organizers and visuals.

In early elementary grades, Estrella reported using a workshop model for math and literacy instruction. They noted they use Investigations in Number Data, and Space as their K–5 mathematics curriculum (also known as TERC). This is a mathematical instructional approach that encourages children to develop their own understanding of math concepts. The district standards were used to guide the social studies curriculum. Flor Elementary uses a state-mandated K–8 Language Arts curriculum, EL Education (formerly known as Expeditionary Learning). For children in grades K–8, the curriculum focuses on building their content-based literacy (e.g., vocabulary, comprehension, etc.) and reading foundations (e.g., phonics). The content-based literacy component of the curriculum is made up of modular lessons with instruction and assessments, and hands-on experiential learning called labs. These modular lessons are organized around themes (e.g., human rights, building things, etc.). Although this curriculum is open-source, it is only available in English, so the administrators and education staff at Flor adapted it to Spanish. At Batey Academy, language arts is taught through Benchmarks Advanced/Adelante, math is taught using Reveal/Revela, and the instruction across all subjects is aligned with state-level standards.

Esperanza Center, Bright Bilinguals, Estrella Public Charter, Flor Elementary, and Batey Academy reported using bilingual or home language bridges to help children make connections across languages, especially during vocabulary instruction and to explain content. At Esperanza Center, for example, home language bridges are implemented to support children's understanding of new concepts and language, and language learning is embedded through meaningful teacher-child and peer interactions throughout the day. Examples of home language bridges include using pictures and objects for understanding, connecting physical movement to words for meaning, directly teaching the linguistic features of English, embedding cultural themes into the learning environment, and working with families to continue fostering the home language. These bilingual or home language bridges are also primary features of the SEAL model implemented at Albizu and Jardin Infantil. At Flor Elementary, the teachers color-code each language of instruction when showing visuals and graphic organizers to help children make connections across languages.

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In the dual language programs researched, part of the instruction also included explicit focus on promoting the value of bilingualism and children's cultural backgrounds. Several programs, for example, reported having cultural activities throughout the year. In two programs, Little Hands and Batey Academy, the educators were trained to learn 10 key phrases in the languages that children spoke in addition to Spanish and English (e.g., Haitian Creole). Furthermore, at Growing Minds, they ensured that as the demographics of the programs changed, the staff were responsive to the cultural backgrounds of the new children. For example, the administrator of Growing Minds reported that over the last few years, they have seen a growth in the number of Ethiopian children enrolled in the program. Traditionally, these children eat with their hands instead of utensils at home. So, to ensure they were included, now the program has foods in their rotating menu that everyone can eat with their hands, and the staff talk about the various ways we can eat (utensils, hands, etc.) to be responsive to the Ethiopian children's culture.

Discussion

Programs adapted commercially available curricula to fit within a dual language model. Several programs showed strengths in implementing child-led, critical thinking approaches to pedagogy, including Reggio Emilia-inspired principles and Project Zero. The programs in this study also implemented age-appropriate instructional strategies, as well as explicit strategies to bridge children's knowledge across languages. One area of growth, however, is that two elementary schools reported previously using in one case (and currently using, in a second case) reading curricula that do not align with the Science of Reading (Escamilla et al., 2022). It should be noted that in 2023, several researchers and national organizations published a joint statement supporting and reinforcing the importance of ensuring that literacy instruction for emergent bilingual students is aligned with the Science of Reading (The Reading League, 2023). Further work is needed to continue developing, implementing, and evaluating curriculum and instruction that follows the Science of Reading for children in preschool through the early grades and for curricula to be designed specifically for emergent bilingual children and dual language instructional models.

ASSESSMENT

All program administrators reported using child-level assessments, five reported using classroom-observation tools, and one reported using a family-focused measure (**Table 4**). Although they all noted targeting all domains of children's development, including language, early literacy, and socio-emotional development, the assessments used varied by the age of the children and program. The purpose of these assessments varied, ranging from screening children with potential developmental delays, individualizing and monitoring progress, evaluating program effectiveness, conferring with caregivers, and guiding professional development goals. Two programs, Esperanza Center and Batey Academy, noted they used data to implement a Multi-tiered System of Supports (MTSS) approach to provide individualized instruction (e.g., whole group, small group, individual instruction).

In terms of bilingual assessments, only one program, Batey Academy, reported using the assessments to monitor children's bilingual language development over time. Luna DLL Center, Bright Bilinguals, Flor Elementary and Batey Academy implement assessments in Spanish and English. What's more, programs serving preschoolers using Teaching Strategies GOLD and Ages and Stages Questionnaire (ASQ) can accept responses in English and Spanish, although the assessment does not yield scores in each language. At Flor elementary school, the administrator reported assessing children's reading skills in English and Spanish, math in children's preferred language, and writing in the language they receive the instruction in. At Batey Academy, teachers assess the bilingual early literacy and language skills of children entering Kindergarten before they start school. Then, the screening scores are used to group children in their classrooms based on their language fluency in the language of instruction and their current skills.

In preschool classrooms, the most commonly reported classroom observation tool used was the Classroom Assessment Scoring System (CLASS). Two programs reported developing their own measures of classroom quality (Bright Bilinguals and Esperanza Center). At Bright Bilinguals and Esperanza Center, the administrator developed measures to evaluate the quality of dual language instruction (e.g., language used during instruction, whether code-switching was noted, the content of instruction, etc.). At Esperanza Center, the administrator also reported collaborating with various local organizations to develop the Early Childhood Equity-Focused Classroom Observation Tool. This measure evaluates equity in five focus areas: environment, interactions, curriculum, language use, and family engagement.

Table 4   OVERVIEW OF THE ASSESSMENTS USED

Assessment	Age group	Type and purpose of assessment	Use of data collected	Language(s) of assessment implementation
Child-focused assessments				
Teaching Strategies GOLD	Birth to K	Curriculum-based measure to gather data about children's language, literacy, cognitive and physical development	• Tailor instruction to each child • Confer with parents • Guide professional development targets	Both languages at the same time
Ages and Stages Questionnaire (ASQ)	1 month to 5.5 years	Criterion-referenced screener to assess children's overall development	• Tailor instruction to each child • Confer with parents • Screening and referrals	Both languages at the same time
Ages and Stages Questionnaire (ASQ) Socio-Emotionaal (ASQ-SE)	1 month to 6 years	Criterion-referenced screener to assess children's socio-emotional development	• Tailor instruction to each child • Confer with parents • Screening and referrals	Both languages at the same time
Preschool Language Scale-5 (English, Spanish versions)	0 to 7 years; 11 years	Norm-referenced assessment to evaluate children's expressive language and listening comprehension	• Evaluate program effectiveness • Measure children's growth across languages	English and Spanish tested separately
Peabody Picture Vocabulary Test (PPVT)	2 years; 6–90+ years	Norm-referenced assessment of receptive vocabulary	• Evaluate program effectiveness • Measure children's growth across languages	English only (but Spanish assessment is available)
Individual Growth Indicators (English/ Spanish versions)	4–5 years	Screener of children's language, early literacy, and numeracy skills	• Measure children's progress • Individualize instruction • Confer with parents	English and Spanish tested separately
Devereux Early Childhood Assessment (DECA)	3–5 years	Standardized screener of children's socio-emotional skills	• Screening and referral	English and Spanish tested separately
Brigance III	3–5 years	Standardized assessment of children's various developmental domains, including language and literacy, cognitive, and physical	• Program evaluation • Measure children's progress	English only

Table 4   OVERVIEW OF THE ASSESSMENTS USED (CONTINUED)

State-developed PK assessment	Infants to PK	Formative assessment to measure domains such as language and literacy, cognitive, learning approaches, English development, socioemotional development, etc.	• Program evaluation • Monitoring children's progress • Conferring with parents	Available in English, Spanish, Chinese
State-developed K–12 assessment	K–12	Measure data on students' performance on math and English Language Arts	• Measure children's progress • School evaluation	English only
WIDA screener	K–12	Measure children's English language proficiency	• Determine children's English Learner status	English only
Acadience Reading	K–6	Phonemic awareness, reading comprehension	• Screener to identify children who might need additional reading supports	English only
Family-focused survey				
Family survey	N/A	Program-developed survey to determine families' attitudes about school involvement, interactions with teachers and staff, parenting self-efficacy, sense of social support and social capital, and access to community resources	• Evaluate effectiveness of family engagement program at the beginning and end of year	Spanish and English versions available
Classroom observation tools				
CLASS	N/A	Evaluate the quality of teacher-child interactions	• Guide professional development	N/A
Program-developed measures of dual language instruction	N/A	Measure the implementation fidelity of dual language programming	• Guide professional development	N/A
Early childhood equity-focused classroom observation tool	N/A	Evaluate equity in the environment, interactions, language use, curriculum, and family engagement	• Guide professional development	N/A

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Discussion

Overall, programs used a variety of assessments to make data-based decisions to guide children's instruction, professional development, and program improvement. The only limitation was that only one program assessed children's bilingual development over time, and that the measures used did not apply a translanguaging approach (i.e., two languages assessed separately). In addition, some programs reported that they only assessed in English because this was required by their school district or funding agency, and they had limited time to assess children in the second language of instruction. There needs to be continued focus on developing culturally and linguistically valid, domain-general and domain-specific assessments for Spanish-English emergent bilinguals in early childhood and the early grades, in addition to developing guidelines on how to assess children's entire linguistic repertoires as standard practice in dual language programs.

WORKFORCE, CREDENTIALING, AND PROFESSIONAL DEVELOPMENT

WORKFORCE AND CREDENTIALING

Four of the 11 programs reported data on their educators' demographic variables, education, and wages, and six of the 11 reported their educators' education levels. The educators' educational levels varied by setting. Three of the six programs had co-teaching models with lead teachers that primarily had bachelor's degrees and some master's degrees. In two of the six programs (Growing Minds and Little Hands), all the teachers had Child Development Associates (CDAs). From the data reported, early childhood educators' salaries ranged between $24,960 (CDAs) to $61,500 (bachelor's and master's degrees). In the elementary school with publicly available salary scales, teachers with bachelor's degrees

had a base salary of $54,000, those with master's degrees have a base salary of $60,115, and teachers with 21+ years of experience with bachelors can earn up to $80, 929, while those with master's degrees can earn up to $95,950. The languages that teachers spoke included English, Spanish, French, Tagalog, and Amharic. No differences were observed in terms of teachers' salaries and positions based on their race, ethnicity, or language of instruction.

WORKFORCE RECRUITMENT AND RETENTION

At Batey Academy, educators are recruited using general employment search engines like Indeed and by word of mouth. Part of the interview process involves teachers demonstrating a sample lesson with a group of children. The administrator reported prioritizing educators who share a passion for bilingual education and who are good fits with the school culture and values, which include prioritizing joy and wellbeing for adults and children. For example, the administrator shared that she only hires teacher candidates who take the time to learn children's names during the sample lesson, as this is an indicator of their interpersonal skills and care for students. Once hired, educators shadow experienced teachers across all the grades for two and a half months before they start teaching independently. This internship experience provides new teachers opportunities to learn about the curricula and instruction of the school. In addition, the administrator reported using retention strategies, such as allowing teachers to have the first hour of their day for planning and organizing their day, and ensuring teachers left by 3:45 PM each day to make sure they had time to take care of themselves and their families. The administrator reported that in its three years of operation, Batey Academy has 100% teacher retention rate, and that they have already hired eight new teachers for next year to supply the workforce they need to expand their school to more grades.

PROFESSIONAL DEVELOPMENT

All of the programs reported implementing professional development, and all had in-service training at the beginning of the year. Other types of professional development varied, including individual and group coaching, cohort models, and weekly mentor-teacher meetings. Five programs (Esperanza Center, Albizu, Jardin Infantil, Flor Elementary, and Batey Academy) reported using peer teacher mentors to support professional development. For example, Albizu and Jardin Infantil have teacher cohorts who learn their intervention model at the same time, then support each other with implementation. Teachers share their resources and lesson plans with each other, and they ask and answer questions using an online district platform. At Esperanza Center, teachers with master's degrees lead professional development for the rest of the teachers.

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Program administrators also reported implementing professional development in intentional ways. One program reported having weekly early release days so teachers have dedicated time for coaching and planning. Several others shared that they create annual professional development calendars to identify in-service training days. The majority also reported using classroom- and child-level data to identify professional development targets. For example, at Luz DLL Center, end-of-year child- and classroom-level data are used to make strategic plans on what topics to address for professional development the following academic year. At Estrella Public Charter School, data are reviewed at the end of each unit (four times a year) to guide professional development decisions. At Flor Elementary School, professional development is informed by children's data, and a collaborative community of experts (composed of two lead teachers per grade and the rest of the educators for each grade) form teacher study groups. These groups meet for six to eight weeks, and each week, they address a specific topic (e.g., social emotional development, math, writing, phonics, etc.). After the completion of each study group, all the teachers meet to share what they learned with one another. The lead teachers of each grade also meet with the principal to plan each study group and to ensure they are applying an inquiry approach.

The topics and skills addressed as part of professional development varied, but they included bilingualism and second language acquisition; implementation of the curricula and assessments; analyzing child- and classroom-level data; translanguaging; and developing strategies for providing cross-language connections, socio-emotional supports, and domain-specific instruction. One program (Esperanza Center) reported having specific training on anti-bias/anti-racist principles in early childhood.

One administrator reported that, as a result of their retention strategies, the school has had a 100% retention rate in its three years of operation — and they have already hired eight new teachers to expand the program and serve additional grades in the next school year.

Discussion

Teachers in all programs were credentialed for the ages they taught and had several years of experience. In line with equitable workforce approaches, teachers in our small sample were not paid differently based on their ethnicity or language of instruction. However, bilingual teachers were not paid more for their knowledge of two languages, which research supports is an effective retention strategy. All programs had a comprehensive approach to supporting teachers' continued learning through professional development, including the use of cohort models, the use of classroom data to inform instruction, embedded coaching, etc. Professional development topics varied by program and included topics such as bilingualism and dual language instruction, socio-emotional development, data-based decision making, and assessment. It should be noted that only one program provided its educators with anti-bias/anti-racist training, and none reported receiving training on emergent bilingual children with suspected or identified disabilities. Providing specific training on both anti-bias/anti-racist principles and children with disabilities are crucial components of a high-quality dual language program.

FAMILY LEADERSHIP AND ENGAGEMENT

All programs reported having a system for family engagement, and one program reported having a focus on family leadership. In terms of leadership, the administrator of Esperanza Center reported having a Parent Council composed of two parents per school. The role of this council is to be engaged in the decision-making of the school. Batey Academy also reported having a Parent-Teacher Council.

Programs varied in how they engaged families. Several programs reported having monthly or bimonthly meetings with families to discuss various topics ranging from bilingual language development, how to support children's academic development, what to expect in Kindergarten, community resources, etc. At Albizu Early Childhood Center, there are

Curricular and Raise a Reader Nights, where the education staff engage families in activities to support children's academic skills. Several programs also reported having cultural heritage and community-building events to encourage families' celebrations of their identities, and to invite them to participate in community gardening, cooking together, etc.

One program, Estella Public Charter, has very recently launched whole-group data meetings with families where they discuss children's performances. They also partner with Flamboyan Foundation, which is a program that funds the coaching, training, and development of sustainable family leadership strategies. For example, Flamboyan works with the staff at Estrella to meet with families in their homes or preferred locations before the start of the year to discuss their dreams and hopes for their children. At Batey Academy, parents, teachers, and students have mandatory quarterly meetings, where students participate to reinforce that they have a role in their own learning.

Bright Bilinguals has Parent Cafes, which are weekly discussion-based virtual meetings. Parents engage with one another to share their successes and challenges related to topics such as early literacy development, behavior management, cultural identities, and how to communicate with teachers. Guests are also invited to these meetings to share information about different resources available to them in the community. Families are surveyed at the beginning and end of the year to determine their attitudes about children's learning, engagement with teachers and staff, parent self-efficacy, and social capital.

At Flor Elementary, the staff conducts home visits with all new students to learn about the children and the best ways to support them. They also have monthly Family Fridays, where families are asked to come to their children's classrooms to learn about what children are learning in school. They also have monthly Principal Chats, which are conducted virtually to reduce barriers, and workshops with the Family Coordinator. Although all family events are in Spanish and English, Flor also has dedicated programming for Spanish-speaking families, where all content and interactions are in Spanish to help them have a safe space where they can be comfortable. They also create events, such as cooking days, where families who speak different languages and are from different racial and ethnic backgrounds can interact with one another in authentic ways while sharing parts of their cultural identities.

To ensure that families were engaged in their home language(s), programs reported using various approaches. These approaches include hiring interpreters if needed, using Google Translate, and working with community members who speak the language. One program reported using Class

Dojo, a communication app for the phone that automatically translates messages. Another program reported using Goosechase app to encourage families to participate in interactive scavenger hunts together.

Discussion

Across programs, families were engaged using several strategies, including monthly and bimonthly parent meetings, cultural events, and community-building programming. In the majority of programs, family engagement activities were conducted in English and Spanish. In one program, the administrators organized parent groups specifically for those who were Spanish-speaking to aid families feel more comfortable. Only two programs had explicit family leadership opportunities. Continued work is needed to ensure that families are not only engaged, but also that they are given leadership opportunities and empowered to aid in the decision-making of the program.

SERVICES AND INCLUSION FOR EMERGENT BILINGUAL CHILDREN WITH DISABILITIES

All program administrators reported screening and referring children who are emergent bilinguals with suspected delays or disabilities for further evaluation. One program (Esperanza Center) reported conducting home surveys to ensure that children with suspected or identified disabilities were receiving support to foster both their bilingualism and special education. In this program, the administrator cultivates relationships with therapy agencies in the community to identify therapists that are linguistically and culturally matched to the children receiving special education services. Parents are also informed about the process of referrals and screenings to ensure that their input is honored in the development of the Individuals with Education Plan (IEPs)/Individual Family Service Plans (IFSPs) for those identified as having a disability.

At Luna DLL Center, a disability coordinator screens children and collaborates with parents through the referral, evaluation, and IEP/IFSP development process. Batey Academy has a full time bilingual speech-language pathologist that supports emergent bilinguals with disabilities.

The location where children receive most of their early intervention or special education varied by program. Several programs reported that therapists such as speech-language pathologists or occupational therapists provided either push-in or pull-out services, depending on children's needs. One program, Growing Minds, reported that they have a full-time behavior therapist who goes to each classroom to offer support to teachers. At Maria Clara, an inclusion coach provides support to the general education teachers. The administrator noted that she does not believe that only the highest achieving children should have access to bilingual education. Children with autism and speech impairments are currently enrolled in the dual language program; however, children who need more support do not receive bilingual education.

One program, Albizu, is the only one in its school district that specifically enrolls children with disabilities in its dual language program. They have a co-teaching model, where there is one lead teacher and one aid to support children with disabilities. Children's IEP goals are embedded in the daily instruction provided, with modifications to the curriculum when needed to meet their individual needs. Related services (e.g., SLP, OT, etc.) are provided in the language being taught during a specific time of the day. Because the SLP serving the program is bilingual, they can offer push-in services in Spanish or English, depending on the language of instruction at the time.

At Estrella Public Charter School, children with disabilities are served along a continuum. Children who do not need as much support receive their special education services in the general dual language classroom, and their bilingualism and learning needs are addressed concurrently. However, children with disabilities that require more support receive all their special education and general instruction in a self-contained classroom segregated from peers in general education classrooms. The administrator of the program noted that it is challenging to find Spanish-speaking special education teachers, so it is difficult to provide them with a 50-50 Spanish-English bilingual education model. For example, if an IEP goal is targeting a subject like math that is always taught in English, instruction and special education services are also provided in English. To meet the needs of these children with disabilities, general education teachers who are bilingual are receiving training in special education. At Estrella, there is also an intentional recruitment of one-on-one aides and related personnel that speak Spanish.

Flor Elementary School had an inclusive model for children with disabilities who are also emergent bilinguals. Each grade has a classroom where children with disabilities receive their special education services alongside children without disabilities. An itinerant co-teaching model is used to provide these inclusive services. An itinerant co-teaching model is one in which a general education and special education teacher provide instruction together to support children's individual learning needs. All children with disabilities receive both special education and dual language instruction. Each year, a new group of children without disabilities have the opportunity to be in the inclusive classroom so everyone co-learns along with their peers who are disabled.

Discussion

All programs had a system for screening and referring children with suspected disabilities to further evaluation; however, only two programs (one elementary school and one state-funded preschool) had explicit policies and procedures for including children with disabilities who were emergent bilinguals in dual language programs with non-disabled peers. Both the preschool and elementary school with the inclusive programs had co-teaching models, a research-supported approach for promoting inclusion. Children who are emergent bilinguals with disabilities have the right to an inclusive education alongside their peers in dual language programs. For programs to meet the highest level of quality, they need explicit policies, procedures, and practices to ensure that children with disabilities who are emergent bilinguals receive an equitable, inclusive, dual language education.

Barriers

Administrators of programs reported a number of barriers that impacted the implementation of high-quality DLI programming. These barriers included systemic barriers, such as widely held negative beliefs about bilingualism that impacted parents' buy-in to dual language programs, in addition to the high cost of housing, which makes it more difficult for families from lower incomes to enroll their children in programs located in more expensive neighborhoods. Another systemic barrier was the high cost of operating a high-quality dual language program, especially as inflation has risen, and educational policies

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and assessment requirements that focus on English-only. Administrators also expressed that finding qualified bilingual educators — especially those fluent in Spanish with expertise in early childhood dual language education — to be a major challenge, especially as a result of the broader workforce shortages seen in early childhood because of the COVID-19 pandemic. They noted that it was also difficult to find quality professional development in Spanish to support the educators who teach in this language, and to find linguistically appropriate instructional materials (books, curricula) and child assessments in Spanish. Several programs

also reported that offering inclusive, high-quality bilingual education to children with disabilities was challenging due to the limited number of special education personnel (e.g., speech-language pathologists, psychologists) who speak Spanish and who are trained in bilingualism. One program noted that Title I of the Every Student Succeeds Act is not flexible and that its allowable uses do not always align with best practices for implementing a dual language program. In addition, the administrator of this program expressed that it is difficult to combine funding for children to receive ESOL and special education services when they are emergent bilinguals with disabilities. Furthermore, administrators noted that it is difficult when the early learning standards they have to abide by are based on monolingual — rather than bilingual — programming, and when they are required to conduct multiple English-only assessments that do not capture children's bilingual development.

> **Administrators surveyed noted that it is difficult when the early learning standards they have to abide by are based on monolingual, rather than bilingual, programming.**

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Overall Discussion

Although programs varied in how they implemented each domain of quality in dual language programs serving young emergent bilinguals from birth to the early grades, there were common themes across programs that provide insight on how to operationalize what quality looks like in dual language immersion programs (Table 5).

For example, programs had comprehensive programmatic structures that provided the infrastructure for implementing a high-quality program. These structures included a leadership team consisting of various roles and an extensive handbook describing policies and procedures related to family engagement, children with disabilities, and other programmatic features. A number of programs served children whose families came from different socioeconomic backgrounds. They also had additive language allocation models that varied by children's ages. Infants and toddlers were in learning environments where teachers spoke in their home language, whereas preschoolers and early elementary-aged children received 50% of instruction in English and 50% of instruction in Spanish, using different approaches such as co-teacher models or separating the language of instruction by subject area.

Programs also had instruction, curricula, and pedagogy that supported children's bilingual and biliterate development. These included the use of child-centered pedagogies such as Reggio Emilia and Thinking Routines, adapting commercially available curricula to fit the needs of dual language instruction, and infusing instruction with opportunities for children to make cross-language connections. Several programs also used child and classroom-level assessments to make adaptations to the instruction based on children's needs, to evaluate the effectiveness of programs, to guide professional development, and to inform quality improvement. These programs also had qualified bilingual personnel with extensive, ongoing professional development on bilingual education, and other relevant topics. A number of programs had educators with bachelor's degrees or higher.

Table 5 — OVERVIEW OF THE MAJOR STRENGTHS, AREAS FOR GROWTH, AND BARRIERS NOTED IN CASE STUDIES

Strengths	Areas for growth	Barriers
• Infrastructure to implement high-quality programming, with strong leadership team committed to bilingualism • Clearly articulated language allocation models • Curricula, instruction, and pedagogy foster bilingualism and biliteracy • Adapted curricula and instructional materials for dual language programming • Qualified bilingual personnel with ongoing training • Strong family engagement	• Assessment of children's bilingual language development over time • Adapting instruction when three or more languages are introduced to the learning environment • Creating equitable enrollment policies with slots for children who speak a language other than English or are bilingual at home, those who are Black, those in poverty, etc. • Inclusion of children with disabilities who are emergent bilinguals in dual language settings	• High cost of child care and housing; gentrification • Limited professional development in Spanish • Lack of assessments that are linguistically and culturally valid in languages other than English • Shortage of bilingual workforce and limited special educators who are bilingual • Parents' and public's negative beliefs about bilingualism • Best bilingual practices in opposition with state laws, policies, and learning standards

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Family engagement was also a critical component of these programs. Programs engaged families using various strategies, including by establishing two-way communication in their home language(s), offering families comprehensive services, participating in Parent Cafes where families learned from each other, visiting families at home, and sharing information to families on the topics they identified as important. A number of programs also had specific guidelines for screening and evaluating children with suspected or identified disabilities. Despite programs' several strengths, the findings of the study revealed areas for growth. These included measuring children's bilingualism over time, adapting instruction when children in the classroom speak languages other than those of instruction, having equitable enrollment policies with allotted seating for children who speak a language other than English or who are bilingual at home, those who are Black and those living in poverty, and including children with disabilities in general education dual language settings.

These areas of growth are in tandem with some of the barriers that program administrators reported. These barriers included systemic barriers associated with the high cost of childcare, limited availability of Spanish professional development, assessments, and materials, reduced bilingual workforce, and limited special education bilingual personnel to serve children with disabilities. Administrators also reported additional barriers, including parents' misconceptions and negative beliefs about bilingualism, changes in program demographics (e.g., gentrification, having children who speak languages that the staff does not speak), and misalignment between early learning standards for monolinguals and what is best practices for bilingual children. Moreover, even when administrators desire to have an equitable enrollment policy to secure slots for children who speak a language other than English at home, they can't establish these enrollment policies because it is illegal to do so based on their city's laws. This tension between best practice for dual language programs and laws that apply to all programs is a major barrier given the number of programs impacted by gentrification and the disproportionate representation of children who are English monolinguals from middle to upper class in some programs (Williams et al., 2023).

The findings from these multiple case studies showcase how high-quality dual language programming for young emergent bilingual children is multifaceted and requires comprehensive systems — from programmatic structures, to family engagement and leadership, to services and inclusion for children with disabilities who are also emergent bilinguals. The results of this research brief underscore the need to explicitly define and gather data on how to implement the high-quality dual language immersion programs that young emergent bilingual children need to thrive.

Operationalizing High-Quality Dual Language Programming: From the Early Years to the Early Grades
The Children's Equity Project

Program Spotlights

INFANT/TODDLER PROGRAM SPOTLIGHT

Most of the children served in the program come from low-income communities (79.8%), and 24% of the children they serve are three years old and older with disabilities.

PROGRAM NAME: Esperanza Center

AGES SERVED: Infants/toddlers; preschoolers

TYPE OF PROGRAM: Public charter school

LANGUAGE ALLOCATION: Infants and toddlers receive instruction delivered in the home language. Preschoolers receive 50% of instruction in Spanish and 50% in English.

LANGUAGES: Spanish, English

CLASSROOM COMPOSITION: 76% children come from Spanish-speaking households

ANNUAL COST TO SERVE ONE CHILD:

- Infants and toddlers: $8,000–9,000 for 2.5–3 hours each day, where teachers and parents partner to engage children in learning using the parent's goals and background as well as content covered in child development parent classes.

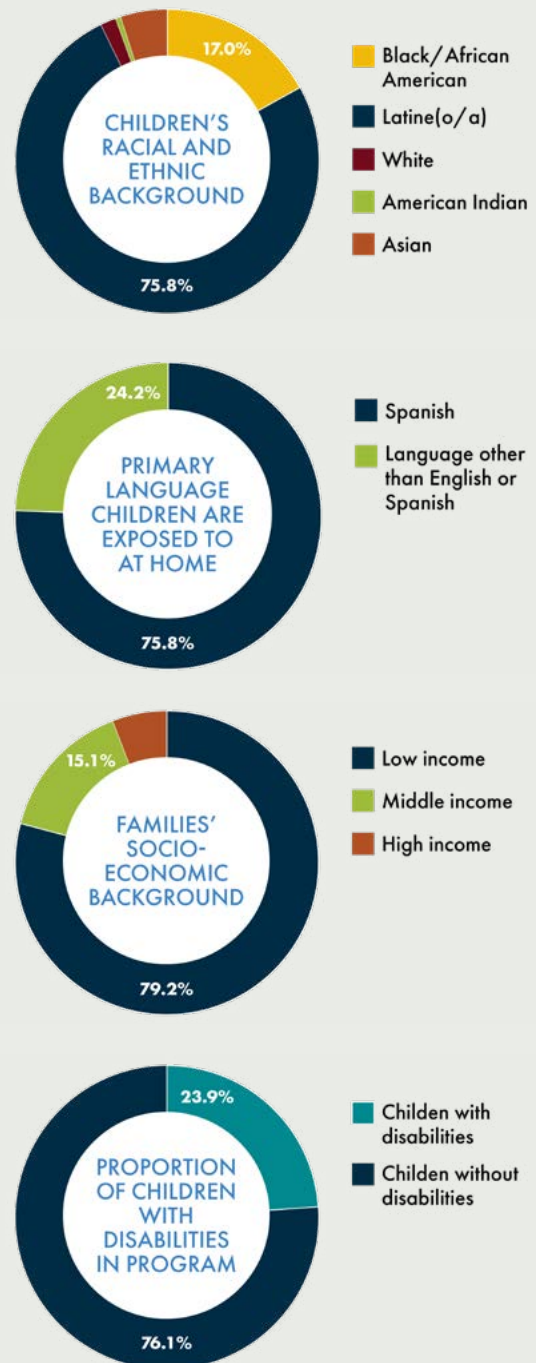- Preschoolers: $28,000 for one child, excluding wraparound services.

PROGRAM OVERVIEW

Esperanza Center is a public charter dual language school serving infants/toddlers and preschoolers in the northeastern region of the United States, with campuses in three locations. They focus on early childhood, adult education, and child development/family time. They have a two-generation model, where children and caregivers receive comprehensive support. Caregivers receive adult education to meet their personal and professional needs, including English as a Second Language courses, Medical Assistant training, and Child Development Associate certification courses in Spanish and English. They are also connected with resources in the community to meet families' holistic needs, including medical and dental care, mental health supports, and education opportunities such as English classes and job training. Esperanza Center shares physical space with the center that offers these holistic services to ensure that families have direct access to community care.

As seen in **Figure 1**, Esperanza Center serves primarily children and families from low-income communities (79.2%) who speak primarily Spanish at home and are Latine (75.8%).

Figure 1

CHILDREN'S RACIAL AND ETHNIC BACKGROUND
17.0%
75.8%

Black/African American
Latine(o/a)
White
American Indian
Asian

PRIMARY LANGUAGE CHILDREN ARE EXPOSED TO AT HOME
24.2%
75.8%

Spanish
Language other than English or Spanish

FAMILIES' SOCIO-ECONOMIC BACKGROUND
15.1%
79.2%

Low income
Middle income
High income

PROPORTION OF CHILDREN WITH DISABILITIES IN PROGRAM
23.9%
76.1%

Childen with disabilities
Childen without disabilities

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PROGRAM HIGHLIGHTS

Curriculum, Instruction, and Pedagogy. Infants and toddlers and their caregivers receive educational experiences that are developmentally appropriate and culturally responsive. Instruction happens in dyads between caregivers and their infants and toddlers for 12.5 hours per week during half-day programs. Educators are culturally and linguistically matched to the families and children served, and they implement Reggio Emilia–inspired principles, including child-directed learning and exploration with natural materials. Schemas for learning are also integrated, with infants and toddlers scaffolding their interactions and curiosities to optimize their development. Instruction is delivered in children's home language to set the foundation for their future learning.

To ensure that instructional materials are accessible in Spanish, the education staff at Esperanza Center spent two years translating materials. They collaborated to create lesson guides that provide objectives, materials, target vocabulary, etc. in English and Spanish. They also developed their own outdoor curriculum that infuses learning domains into outdoor activities.

Family Leadership and Engagement. At Esperanza Center, the philosophy toward family leadership and engagement is that parents are children's first and foremost teachers, and that they are key in co-creating the opportunities needed for children to thrive. The program has a Family Advisory Council that helps make decisions about the school. Two caregivers are chosen from each campus, and they are given the opportunity to provide input on school decisions. The program also has a Student Council in which caregivers are chosen to support the recruitment of additional children.

Once a week, caregivers and their young children participate in Family Time. During this time, educators work with caregivers, while the environment is used to facilitate children's learning and development (following the Reggio Emilia principle of using the environment as the third teacher). The Family Time sessions are also created to facilitate the hands-on learning experiences between caregivers and their infants/toddlers. During Family Time, caregivers are encouraged to co-create meaningful learning experiences including interactive storytime, field trips to the community, visits to the public library, and holiday celebrations.

Families also have opportunities to expand their skill sets through trainings on a wide range of topics, such as bilingual language development, neuroplasticity, how to prevent sexual abuse, domestic violence prevention, teen mental health, and more. They are also encouraged to be part of "Esperanza Center Voices for All," in which they identify social issues (e.g.,

additional transit subsidies, health insurance reform, etc.) that impact them and testify in local legislative meetings.
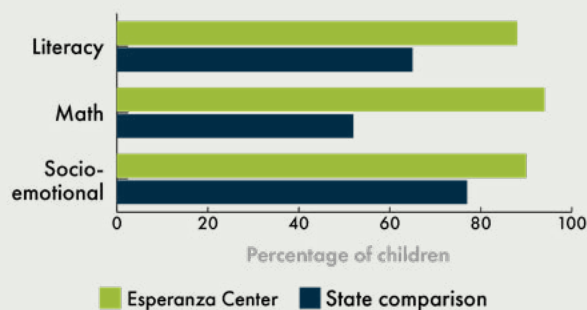
Lastly, the program has a community school model that has comprehensive services at each campus that includes access to medical and dental care, mental health supports, social services (e.g., WIC, domestic violence support, energy assistance programs), educational opportunities including English classes and job training for caregivers, and a parent leadership model.

Assessment. Assessments address all areas of children's development. Once infants and toddlers become preschoolers, they are assessed using Teaching Strategies GOLD, which is an ongoing curriculum-based measure of development that can be used to capture children's skills across languages. The Classroom Assessment Scoring System (CLASS) is also used to measure the quality of instruction. Furthermore, the administrator of the program partnered with other organizations to develop the Early Childhood Equity Classroom Observation Tool, which focuses on five areas: environment, curriculum, interactions, language use, and family engagement. This tool can be used as a self-reflection measure or by an external evaluator. Data collected from this tool is used to identify areas of strengths, as well as areas of growth and focus for professional development.

Workforce, Credentialing, and Professional Development. In terms of workforce and credentialing, lead teachers' average annual salary is $62,000. Teachers provide instruction in Spanish or English, and some teachers speak other languages such as French, Tagalog, and Ahmaric. At Esperanza Center, professional development occurs primarily through in-service training and ongoing coaching. They also have professional development days once a month. Professional development topics include bilingualism and second language acquisition, assessment, dual language instruction, and anti-bias approaches. Coaching sessions also are tailored to each teacher to match their needs and professional goals.

Child Outcomes. As seen in **Figure 2**, preschoolers enrolled at Esperanza Center outperform other preschoolers in the state who only receive instruction in English in literacy, math, and socio-emotional skills. Most preschoolers at Esperanza Center (88%) are meeting or exceeding literacy benchmarks on Teaching Strategies GOLD, compared to only 65% of preschoolers across the state. Ninety-four percent of them are meeting or exceeding math benchmarks, compared to 52%, and 90% are meeting or exceeding socio-emotional benchmarks compared to only 55% of other preschoolers in the state.

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Figure 2

Figure 2 COMPARISON OF EMERGENT BILINGUALS IN PRESCHOOL WHO MET OR EXCEEDED BENCHMARKS ON THE TSG GOLD

Percentage of children

■ Esperanza Center   ■ State comparison

Figure 3

Figure 3

CHILDREN'S RACIAL AND ETHNIC BACKGROUND
- Latine(o/a) — 80.0%
- White — 9.5%
- Black/African American — 6.7%
- Asian
- Other

PRIMARY LANGUAGE CHILDREN ARE EXPOSED TO AT HOME
- Spanish — 54.4%
- English — 43.9%
- Other

FAMILIES' SOCIO-ECONOMIC BACKGROUND
- Low income — 47.8%
- Middle income — 52.2%

PROPORTION OF CHILDREN WITH DISABILITIES IN PROGRAM
- Childen with disabilities — 6.4%
- Childen without disabilities — 93.6%

PRESCHOOL PROGRAM SPOTLIGHT

PROGRAM NAME: Luna Dual Language Center

AGES SERVED: Infants/toddlers; preschoolers

TYPE OF PROGRAM: Educare/Head Start

LANGUAGE ALLOCATION:
Preschoolers: 50% Spanish, 50% English

LANGUAGES: Spanish, English

CLASSROOM COMPOSITION: 62% of children come from Spanish-speaking households

ANNUAL COST TO SERVE ONE CHILD: $22,000

PROGRAM OVERVIEW

Luna Dual Language Center is an Educare early childhood program serving infants, toddlers, and preschoolers in the southeastern region of the United States. This program is a demonstration school, with professional development opportunities for families, educators, and early care and education providers. Its three guiding principles are to educate children, to model evidence-based practices, and to advocate for policy change. Its key practices include offering children meaningful environments to ignite their curiosity and learning; grouping children as "families" so that they progress from each classroom together for their
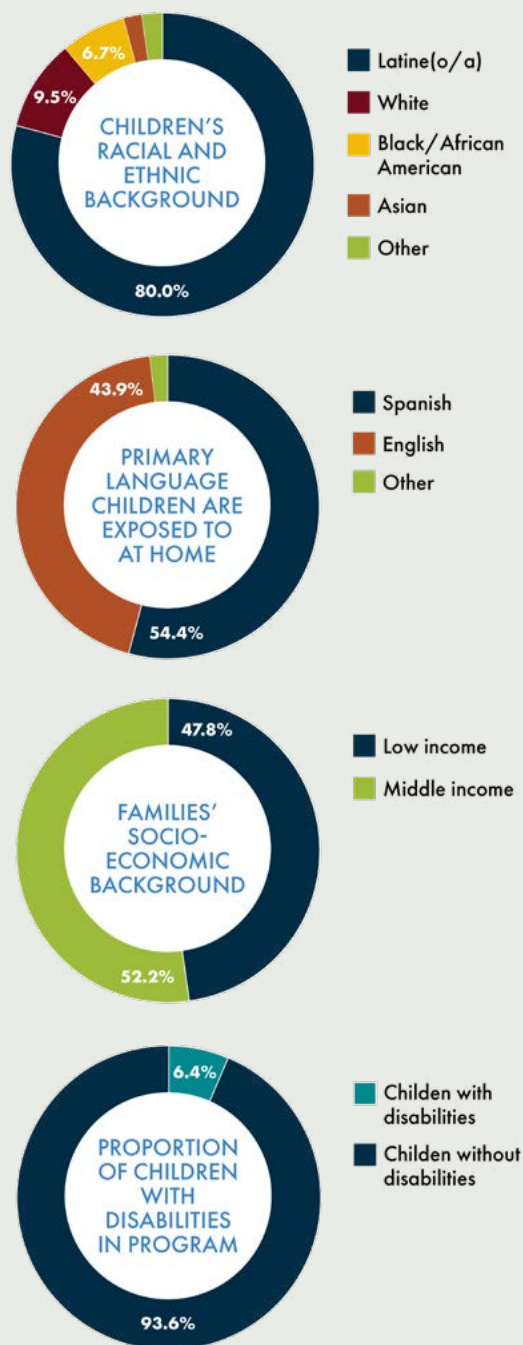
first three years of life; offering dual language instruction; addressing all developmental domains, including early literacy and socioemotional development; embedding technology; prioritizing wellness, and implementing inquiry-based learning.

As seen in **Figure 3**, Luna DLL Center serves primarily Latine children and families (80%), and over half of children in the program (54.4%) speak primarily Spanish at home. Nearly

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half of the children enrolled live in low-income communities, and the other half comes from middle-income families. 6.4% of children enrolled in this program have disabilities.

PROGRAM HIGHLIGHTS

Programmatic Structures. Luna DLL Center has a diverse leadership team with distinct roles, including a president, vice president, director, and three main teachers. One of these main teachers serves as a disability coordinator, and all main teachers provide job-embedded professional development to the other teachers. Demographics of children served at Luna DLL Center also consists of a family engagement supervisor with three staff members that support them and a mental health consultant that provides all of the socio-emotional learning support and assessments. In the program, speech language pathologists and other therapists are also contracted to provide children with additional support.

Luna DLL Center also has an enrollment policy to include children from mixed incomes. Children from low incomes are enrolled through a Head Start application that uses a point system based on factors such as income, age, whether children are houseless or in foster care, whether they have a disability, and other factors, (e.g., if the parents are single or teenagers, tribal members, or work in Head Start). Children from higher incomes whose parents pay tuition are entered into a lottery for all children in the city. Children who are not selected for enrollment are placed on waiting lists.

Curriculum, Instruction, and Pedagogy. Luna DLL Center uses inquiry-based learning as their pedagogical approach to preschool instruction. Inquiry-based learning is characterized by teachers engaging children in a way that promotes curiosity and problem-solving. For example, children might ask a question such as, "Why are ice cubes cold?" Teachers then guide children to explore the answer by doing hands-on activities. Then, children make observations and draw conclusions based on what they see and learn. Luna DLL also uses Reggio-inspired instruction. Reggio-inspired classrooms consider the environment itself to be a third teacher. The learning environment offers natural elements to encourage self-directed play and curiosity. Classrooms are created in a way that allows for interaction, and children's artwork is displayed with transcriptions of what they are trying to communicate. There is also a focus on promoting children and families' identities. In addition, as part of the Reggio-inspired classroom, children at Luna DLL have the same teacher for three years to encourage a positive relationship and to maintain continuity of care. The program also implements Thinking Routines, in which teachers support critical thinking by engaging children in discussion about what they see, think, and wonder. For example, when children are in the

playground, a teacher might ask, "What do you see on the ground today?" "Why do you think it is wet today?" and "I wonder what would happen to the flowers if it did not rain?"
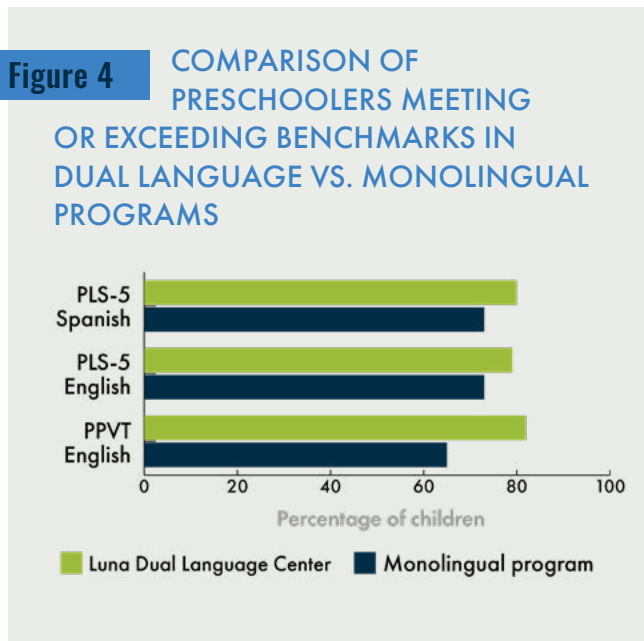
In terms of providing preschoolers with dual language instruction, the program does not subscribe to a specific Spanish-English curriculum. However, they have a co-teaching model with two teachers — one who speaks Spanish and one who speaks English. Instruction is provided 50% in Spanish and 50% in English, with the language of instruction alternating weekly. To ensure that children's Spanish instruction is as high-quality as the English instruction, the administrator of Luna DLL reported that the staff spent dedicated time to translate English curricular materials to Spanish. She also reported that to support children's bilingual development, they use strategies such as gestures, visuals, and translation software to support children's learning of a second language.

Assessment. At Luna DLL, classroom-level, teacher-level, family-level, and child-level assessments are used. A program-developed family survey is used to gather information about parents' beliefs about bilingualism. Data from this survey is used to guide annual meetings with families and to address any concerns or fears they might have about bilingual language development. The CLASS is implemented at the beginning and end of the year to establish annual professional development goals, and a teacher-level assessment is used to identify and address implicit bias. Child-level assessments are administered in English and Spanish when available. A team of trained education students from the local university administer the Spanish and English Preschool Language Scale-5 and the Peabody Picture Vocabulary Tests. Additional assessments include the Bracken School Readiness Assessment, Devereux Early Childhood Assessment, the Ages and Stages Questionnaire, and a state-mandated assessment for preschoolers. These assessments address each developmental domain. The data collected is used to confer with parents, guide professional development, refer children to be evaluated for suspected delays or disabilities, and to set program goals. At the end of each year, the mentor teacher reviews the data with classroom teachers to identify strengths, trends, and areas for growth. Data are also reviewed to guide small groups and to adapt instruction to children's specific needs.

Services for Children with Suspected or Identified Disabilities. At Luna DLL Center, a disability coordinator supports children with suspected or identified disabilities who are also emergent bilinguals, in addition to their families. This person reviews screening data to carefully determine whether children are demonstrating skills consistent with bilingual development or whether there is a potential delay or disability. Once a concern is established, the disability

coordinator meets with the families to explain the process of evaluation and eligibility. Once parents agree to an evaluation, the disability coordinator collaborates with the state's early intervention/special education evaluation team to conduct an evaluation. If a child meets eligibility criteria and has an IEP/IFSP, the disability coordinator supports teachers and program staff to collaborate with contracted therapists who provide push-in or pull out services, depending on the needs of the child at the time. These therapists are Spanish-English bilinguals, and children receive supports in both their languages as appropriate.

Child Outcomes. The preschoolers who attend Luna DLL have outcomes that exceed those who attend similar English-only programs (see **Figure 4**). Based on 2021–2022 child outcomes, 80% of children who attend Luna DLL receive a score of 100 or higher on the PLS-5 in Spanish compared to 73% of emergent bilingual preschoolers who attend a similar Educare-funded program but only receive instruction in English. Their scores are slightly higher (79%) on the English PLS-5 than children in an English-only program (73%). They also have higher scores on the PPVT administered in English, with 82% in emergent bilinguals at Luna DLL having a score that meets or exceeds expectations, compared to only 65% of emergent bilinguals receiving English-only instruction.

| Figure 4 | COMPARISON OF PRESCHOOLERS MEETING OR EXCEEDING BENCHMARKS IN DUAL LANGUAGE VS. MONOLINGUAL PROGRAMS |

ELEMENTARY SCHOOL SPOTLIGHT

PROGRAM NAME: Estrella Public Charter School

AGES SERVED: Preschoolers; elementary-aged students

TYPE OF PROGRAM: Public charter school

LANGUAGE ALLOCATION: 50% of instruction in Spanish and 50% in English

LANGUAGES: Spanish/English

CLASSROOM COMPOSITION: 30% of children come from Spanish-speaking households, 68% from English-speaking households, and 3% from households that speak a language other than Spanish or English.

ANNUAL COST TO SERVE ONE CHILD: $12,000–14,000 (excluding specials events, field trips)

PROGRAM OVERVIEW

Estrella Public Charter School is located in the northeastern part of the United States and serves preschoolers and school-aged students from grades K–5. Its goals are to provide students with high-quality Spanish and English instruction, to build strong critical thinking skills and problem solving for math and science, to perform above average in each content area, to create cross-cultural understanding, and to increase family engagement. Their language allocation model changes based on the grade, but it strives to offer children with high-quality bilingual instruction for up to eight years to enhance children's fluency across English and Spanish over the course of nine years (PK3–4, K–5). Estrella Public Charter also has comprehensive, wraparound supports, including an award-winning food and wellness program, socioemotional counseling, character education, and a multi-faceted library. The library contains a free lending library for all staff, parents, and students, a teaching library for students for library lessons and storytime, and community outreach to partner with surrounding organizations focusing on literacy and learning. The school also has the largest urban garden in its city that is used for outdoor education, including a pollinator habitat, community compost, rented chicken coop, and play spaces. Finally, Estrella Public Charter offers a Global Leaders program starting in preschool, which culminates with an expedition for 5th graders. The expedition includes visiting Puerto Rico to experience Spanish immersion, learn about the history and culture of the island, and meet political figures and

local historical experts. Once students transition out of Estrella Public Charter, they are guaranteed admission to sister middle and high schools that offer secondary grades, dual language programming, and an International Baccalaureate curriculum.
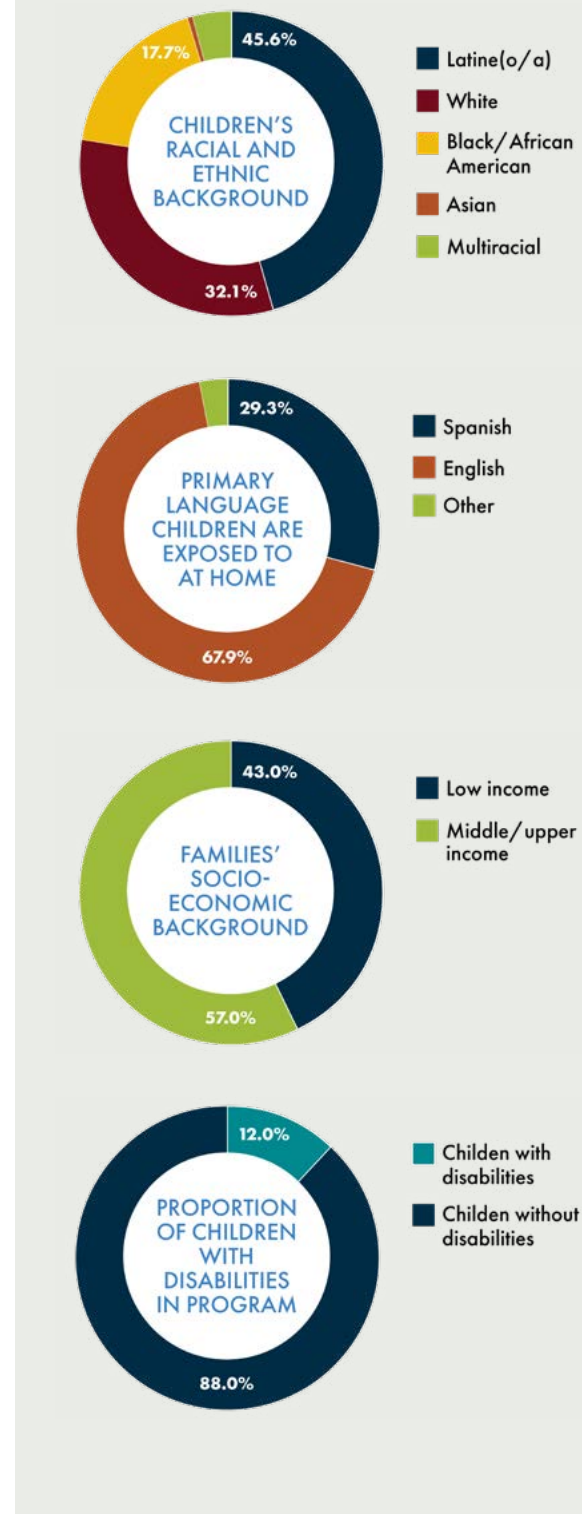
As seen in **Figure 5**, almost half of children (45.6%) at Estrella are Latine, 32% are White, 17.7% are Black, and a few children are Asian or Multiracial. More than half (67.9%) of the children are exposed to English at home, 57% come from middle- or upper-income homes, and 43% come from lower income households. Almost 13% of the children enrolled in the program have disabilities.

PROGRAM HIGHLIGHTS

Pedagogy, Curriculum, and Instruction. At Estrella Public Charter, 50% of instruction is provided in English and 50% in Spanish, but the details of how the languages are allocated during instruction depends on students' grade levels. Literacy instruction is delivered in both languages, and math is taught in English for all grades. Students in grades K–2 have four co-teachers; two co-teach in Spanish and two in English, and they provide parallel instruction in Spanish and English. Once children are in grades 3–5, only one teacher provides instruction in each language, depending on the subject. To ensure high-quality Spanish instruction, the administrators and teachers collaborated to develop and adapt instructional materials to strengthen their Spanish instruction. They also participated in Professional Learning Communities (PLCs) to identify research-supported strategies to enhance students' bilingual education. Additionally, they visited bilingual schools in Los Angeles to receive training for implementing Guided Language Acquisition Design (GLAD), which targets strategies to support children's biliteracy development and second language acquisition. The administrator reported that building teachers' capacity to implement strategies to support their Spanish instruction and investing in high-quality Spanish curricula were more effective than asking teachers to translate from English to Spanish at the same time they were providing instruction. Furthermore, dual language instruction focuses on using cross-language connections to connect what children know across their two languages.

Professional development. At Estrella Public Charter School, everyone, including administrators and teachers, are seen as being part of a community of co-learners. data are also an integral part of their comprehensive professional development program. Each year, administrators ask teachers and other staff to complete TNTP's Instructional Cultural Insight survey. This survey is used to gather feedback on the extent to which teachers are satisfied with the school culture, supports they receive, observations and feedback, etc. Data from this

Figure 5

CHILDREN'S RACIAL AND ETHNIC BACKGROUND
- 45.6%
- 32.1%
- 17.7%

Legend:
- Latine(o/a)
- White
- Black/African American
- Asian
- Multiracial

PRIMARY LANGUAGE CHILDREN ARE EXPOSED TO AT HOME
- 29.3%
- 67.9%

Legend:
- Spanish
- English
- Other

FAMILIES' SOCIO-ECONOMIC BACKGROUND
- 43.0%
- 57.0%

Legend:
- Low income
- Middle/upper income

PROPORTION OF CHILDREN WITH DISABILITIES IN PROGRAM
- 12.0%
- 88.0%

Legend:
- Childen with disabilities
- Childen without disabilities

survey is used to identify the priorities that administrators will target during professional development for the year. An instructional leadership team is responsible for supporting teachers' capacity and hone their instructional skills. At the end of each year, teachers meet with their instructional leaders to review children's performance data and to reflect on what was successful and what could use improvement. This data is used to determine individual teachers' professional development goals. Furthermore, three year PLCs are conducted to support teacher learning in groups. The administrator noted that doing PLCs for one year was insufficient. Additionally, teachers attend external in-service trainings and share their knowledge with each other and the instructional team in order to reinforce the idea that learning is not only a top-down process. To ensure that dedicated time is reserved for professional development, at the end of each unit (four times a year), students do not have school to give time for teachers and the instructional team to review quarterly student data and make adjustments to instruction as needed.

Family Leadership and Engagement. Because the families of students enrolled at Estrella Public Charter are linguistically, racially, and economically diverse, the school implements a targeted approach to family engagement and leadership to foster a culture of belonging and comfort across families. Group and individual activities are implemented to support families. Family engagement activities include annual home visits to all incoming and current students. These visits are made possible by partnering with Flamboyan Foundation, an organization with staff that connects with families before the school year to establish their dreams and hopes for their children. Parent-teacher conferences are accompanied by parent expos, where families can learn about community-based resources. There are also wraparound workshops on issues that are relevant to families, as well as opportunities for learning, such as outdoor garden-based nutrition workshops and cooking demonstrations at their monthly food market. They also have cultural celebrations, including Latine and Black Heritage Month events and a Nutcracker performance. To protect the potential for a power imbalance between White families from middle- to upper-class backgrounds and Latine, Black, and other families of color (or those from lower-income homes), parents are given opportunities to provide input on some decisions, but academic decisions are maintained by the administration and school staff. To preserve equitable access to Estrella Public Charter, the school prioritizes giving access to children who would not have access to dual language instruction otherwise. The school has opted into a citywide program giving preferential weighting to children who are homeless, in foster settings, or in families qualifying for SNAP or TANF in its enrollment lottery.

Child Outcomes. The students enrolled at Estrella Public Charter since preschool consistently outperform their peers in other charter schools and the general school district in math and English Language Arts (ELA) by 3rd and 5th grade on state-level measures. As seen in **Figure 6**, in 2022–2023, 54% of students at Estrella are meeting or exceeding ELA benchmarks compared to 32% of other public and charter schools in the state. In Math, 46% of Estrella students are meeting or exceeding benchmarks compared to 29% of students in public and charter schools in the state.

Figure 6

AVERAGE PERCENTAGE OF CHILDREN WHO ARE MEETING OR EXCEEDING BENCHMARKS ON ENGLISH LANGUAGE ARTS AND MATH AT ESTRELLA VS. ALL PUBLIC AND CHARTER SCHOOLS IN THE STATE, 2022–2023

Percentage of children in grades 3–5

Estrella PCS | State comparison
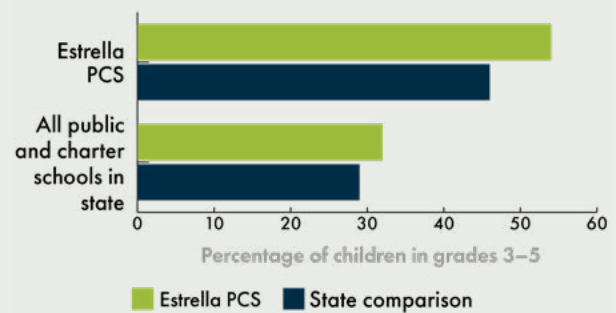
> To protect against a potential power imbalance between White families from middle- to upper-class backgrounds and Latine, Black, and other families of color (or those from lower-income homes) at Estrella, parents are given opportunities to provide input on some decisions, but academic decisions are made by the administration and school staff.

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