JUNE 2022

FIRST 5 CALIFORNIA
Dual Language Learner
PILOT STUDY

INSTRUCTIONAL SERIES | BRIEF 3

Promising Strategies for Supporting Dual Language Learners, Regardless of the Languages Teachers Speak

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With more than half of California's population of young children being dual language learners (DLLs; UCLA Center for Health Policy Research, 2020), it is critical to identify strategies that educators—including those who do not speak children's home languages—can use to support DLLs. Such strategies are important not only for educators who are monolingual English speakers, but also for those who may be bilingual or even multilingual but who work in classrooms with children whose language backgrounds differ from theirs. In some early learning and care classrooms, more than 10 different languages are spoken by the children, and about a quarter of early learning programs enroll children representing at least two non-English language backgrounds (Brodziak de los Reyes et al., 2021).

The First 5 California (F5CA) DLL Pilot Study, a large-scale study funded by F5CA and conducted by the American Institutes for Research (AIR) and partners, was designed to examine how teachers support DLLs in early learning settings and how various types of instructional supports relate to children's language skills and other outcomes. This brief is the third in a series that addresses these questions. The series includes briefs on the following topics:

Key Findings

- While almost all classrooms with Spanish-language DLLs had books in Spanish, one third of classrooms serving DLLs from Cantonese, Mandarin, or Vietnamese language backgrounds had *no* books in their home language.
- Most teachers reported daily use of several different language-independent strategies for working with DLLs, such as making sure that DLLs had opportunities to interact with English-speaking children, engaging DLLs during group time, and implementing hands-on learning activities for DLLs to connect language to content.
- Having more books in Spanish in the classroom and teachers' use of basic phrases and songs in Spanish were both positively associated with the performance of Spanish-language DLLs on outcomes assessed in Spanish.
- Teacher use of basic phrases and songs in Cantonese was positively related to Cantonese vocabulary, Cantonese oral comprehension, and bilingualism for Cantonese-language DLLs.
- For Mandarin-language DLLs, teacher use of general (language-independent) strategies for working with DLLs was related to better performance in both Mandarin and English vocabulary, and relatedly to bilingualism. The number of books in Mandarin also was positively related to DLLs' oral comprehension in Mandarin.
- None of the strategies explored in this brief were positively related to child outcomes for Vietnamese-language DLLs.

BRIEF 1 | How specific classroom language use practices relate to language and learning outcomes for preschool-aged DLLs from four different language backgrounds

BRIEF 2 | How preschool-aged DLLs' language and learning outcomes differ in classrooms with different English and Spanish language use profiles

BRIEF 3 | **THIS BRIEF—How classroom practices that teachers can use regardless of their language backgrounds relate to language and learning outcomes for preschool-aged DLLs**

BRIEF 4 | How classroom practices relate to language and learning outcomes for infant and toddler DLLs

This research brief describes classroom practices—including environmental supports and instructional strategies—that teachers from any language background, including English only, can use in their work with DLLs. It then explores the relationships between those practices and a variety of outcomes for preschool-aged DLLs (3 to 5 years old) with a Spanish, Cantonese, Mandarin, or Vietnamese home language background. **A key takeaway from these analyses is that having books in the home language supports DLLs' home language development and other skills, as does teachers' use of basic phrases and songs in the home language.**

Background

Given the diversity of child language backgrounds in California's early learning classrooms, along with the fact that many teachers may not speak all (or even *any*) of the home languages of the children in their classrooms, teachers need strategies that do not require them to speak DLLs' languages to effectively support DLLs and their development. Such strategies can include specific environmental supports and materials in the classroom that can foster cultural and linguistic continuity between home and school and help young DLLs feel safe and comfortable (Castro et al., 2011). For example, having books and environmental print, such as labels, in the home language, and learning and play materials (e.g., dolls and food items) that represent the different backgrounds of the DLLs present, demonstrates that children's language and cultural background is valued in the classroom (Espinosa & Crandell, 2020). Research has also found that the use of books in the home language can promote language development for DLLs, at least when accompanied by intentional home language instruction (e.g., Simon-Cereijido & Gutierrez-Clellen, 2014; Pollard-Durodola et al., 2016; Méndez et al., 2015).

Teachers can also organize DLLs into groups based on their home language, even if the teachers themselves do not speak the home languages. Use of small groups that provide DLLs with additional support, a language-based peer group, and opportunities to use the home language helps DLLs remain engaged and able to benefit from classroom learning opportunities (Espinosa & Crandell, 2020; Castro et al., 2011; Espinosa & Magruder, 2014); such grouping also facilitates DLLs' home language development (Restrepo et al., 2010).

Another strategy that teachers can implement, regardless of the languages they speak fluently, is learning and using basic words and phrases, such as "hello" and "how are you," in the home languages of the DLLs in their classroom, as well as using songs in the DLLs' home languages (Espinosa & Crandell, 2020). Other strategies teachers can use to communicate and connect with DLLs include the use of language-independent

practices such as body language and gestures to convey meaning, pairing pictures and objects with language to help foster learning, and doing specific cultural activities that explore children's family backgrounds and cultures (Espinosa & Magruder, 2014; NASEM, 2017).

Evidence for the effectiveness of several of these strategies has come from evaluations of dual language interventions that have been shown to foster language and literacy development in both the home language and English (e.g., Castro et al., 2017). In this brief, we examine these strategies as they are implemented in a range of naturally occurring settings, including classrooms with intentional dual language models, classrooms using primarily English or DLLs' home language, and classrooms in which no specific language model is used.

Study Classrooms' Use of Strategies That Do Not Depend on Teachers Speaking the Home Language

In this section, we describe our measures of strategies available to teachers who may not speak DLLs' home languages, and discuss how common each strategy was in the study sample. The data come from a survey of teachers in 271 classrooms in 153 early learning and care programs in 16 counties throughout California.[1] Although large and diverse, the sample was not designed to be representative of all DLL-serving early learning programs across California, so results reported in this brief are not necessarily generalizable to the state as a whole. More information about the participating classrooms and programs is available in the report describing the sample ("Description of the Sample of Preschool-Aged DLLs Included in Analyses of Instruction"—hereafter called the Sample Report, available here).

Although the strategies explored in this brief can be implemented even if teachers themselves do not speak the languages of the DLLs in their classrooms, several of them nevertheless do involve the home language (for example, having books in the home language). We thus asked teachers about the use of these strategies separately for each of the four home language backgrounds that were the focus of the F5CA study—Spanish, Cantonese, Mandarin, and Vietnamese—and report on them separately.[2]

We focus on two major categories of strategies. The first category includes environmental supports—specifically, books and labels in the home language—that classrooms might have. The second category involves the use of instructional practices for supporting DLLs that all teachers can use regardless of whether they are proficient in the home language(s) of their students.[3]

Environmental Supports

Instructional materials in the home language can help connect the home environment and the classroom, and can support DLLs in their language acquisition. We examined two measures related to classroom materials:

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[1] The survey was conducted from May 2020 through July 2020. Although this was after disruptions related to the COVID-19 pandemic had begun, most of the questions on the survey instructed teachers to answer based on their classrooms and instructional practice *prior* to the pandemic.

[2] Teachers were only asked about the use of a strategy pertaining to a particular language if they reported that there were DLLs of that language in their classroom, and we present statistics only for classrooms in which the study assessed at least one preschool-aged DLL of the language, because those are the children and classrooms included in our analyses of relationships between practices and child outcomes. Some classrooms had DLLs from more than one of the four language backgrounds; these classrooms were included in analyses for each language.

[3] See Briefs 1 and 2 for findings related to teachers' use of the home language. It should be noted that nearly all classrooms with Spanish-language DLLs had at least one teacher who spoke Spanish, and average teaching team fluency in Spanish was quite high.

1. how many books the classroom had in the home language, calculated *per DLL of that language background*

2. whether the classroom had (a) labels (on objects around the classroom) in the specific home language of interest, and (b) labels in multiple (unspecified) languages color coded by language[4]

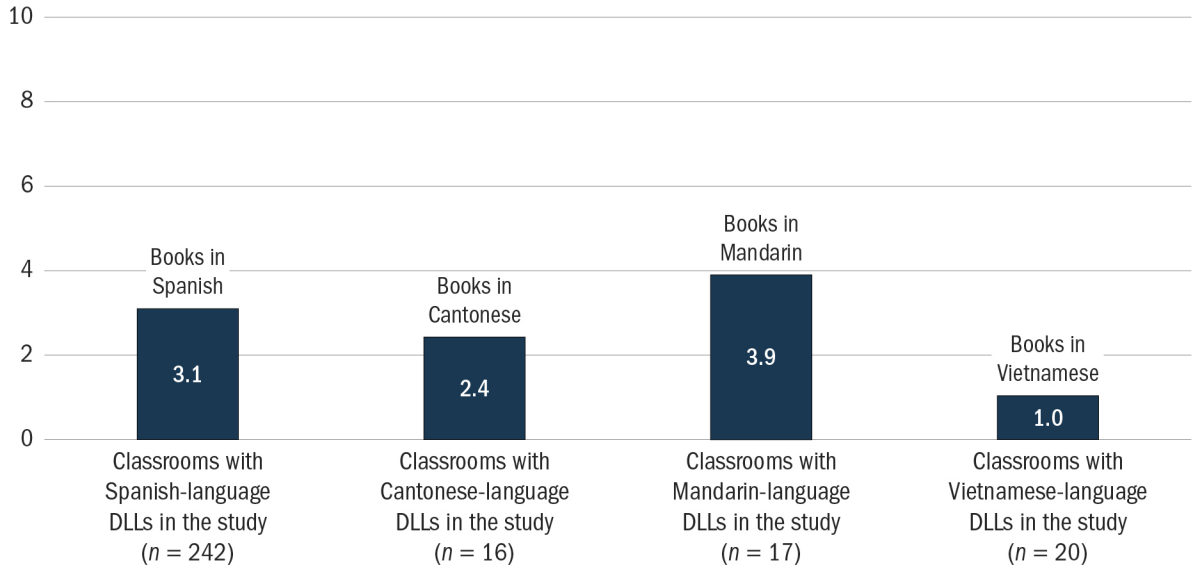
Teachers answered these questions separately for each home language (of the four study languages) for which they reported that there were DLLs of that language in their classroom.

Books in the Home Language

Key Finding: While almost all classrooms with Spanish-language DLLs had books in Spanish, one third of classrooms serving DLLs from Cantonese, Mandarin, or Vietnamese language backgrounds had *no* books in their home language.

Classrooms with Mandarin-language DLLs had an average of 3.9 books in Mandarin per Mandarin-language DLL[5] (Exhibit 1). The numbers were lower for the other three home language groups: about 3 for Spanish, 2.4 for Cantonese, and just 1 for Vietnamese. These are averages, however; some classrooms had *no* books in the home language. While almost all classrooms with Spanish-language DLLs (97%) had books in Spanish, about a third of classrooms serving DLLs from Cantonese (31%), Mandarin (28%), or Vietnamese (35%) language backgrounds had no books in the respective DLLs' home language.

Exhibit 1. Average Number of Classroom Books in the Home Language per DLL of that Language Background



Note. Classroom-level values were created by averaging across the responses of teachers in each classroom; more detail about this averaging process is provided later in the brief.

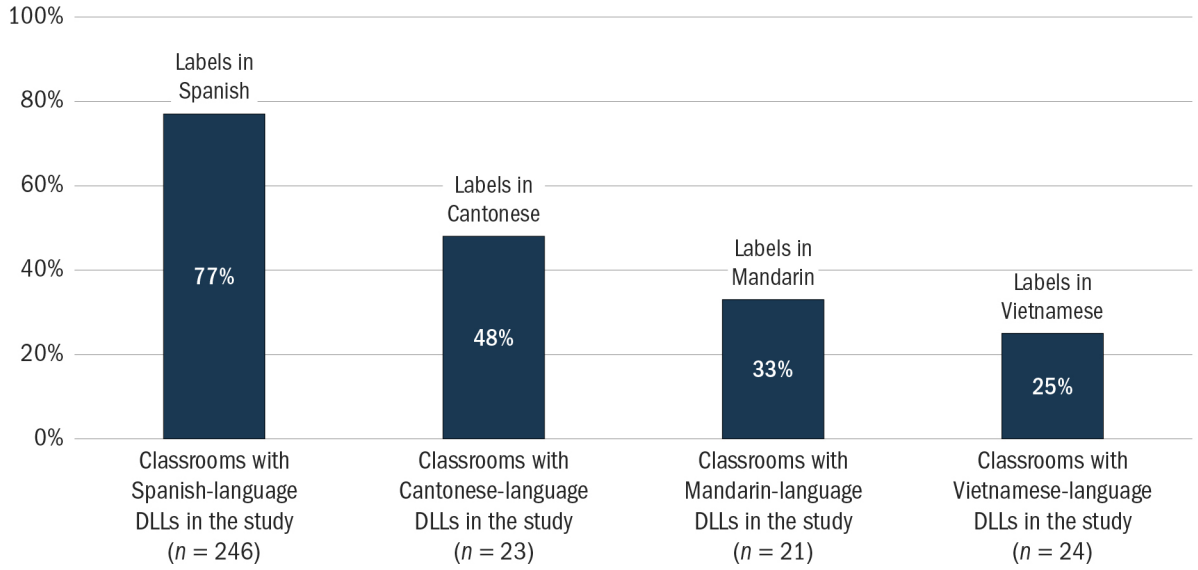
[4] Consistently color coding labels by language can support DLLs by helping them recognize print in each language (Espinosa & Magruder, 2014).

[5] One of the classrooms with Mandarin-language DLLs reported 50 books in Mandarin per Mandarin-language DLL. Because there were only 18 classrooms with Mandarin-language DLLs that reported the number of books, that classroom drives up the average considerably, to 6.5. We have thus omitted this classroom from the calculation of the average shown in the exhibit, but it was included in the analysis of the relationship between the number of books and child outcomes.

Labels in the Classroom

As shown in Exhibit 2, most classrooms with Spanish-language DLLs (77%) had labels on objects around the classroom in Spanish, according to at least one teacher in the room. Labels in the other three home languages were less common, however, in the classrooms of DLLs of those language backgrounds. Such labels were reported by one or more teachers in only about half of classrooms with Cantonese-language DLLs, one third of classrooms with Mandarin-language DLLs, and one quarter of classrooms with Vietnamese-language DLLs.

Exhibit 2. Percentage of Classrooms in Which at Least One Teacher Reported Having Labels in the Home Language



Note. The classrooms included in the calculation of each bar's percentage are those in which the study assessed DLLs of that language background.

We also asked teachers whether labels in the classroom were color coded by language, regardless of the specific languages included on the labels. Only 20% of classrooms with Spanish-language DLLs reported having *neither* labels in Spanish *nor* labels color coded by language (according to all of the responding teachers in each classroom); a similar percentage (19%) reported having *both* types of labels. In all three other classroom language groups, much higher percentages had neither type of label (from 52% for Cantonese up to 71% for Vietnamese), and lower percentages reported having both label types (from 10% for Mandarin to 17% for Vietnamese). Classrooms with Vietnamese-language DLLs were the only classroom language group in which teachers were more likely to report the presence of labels color coded by language than they were to report labels in the home language of interest, possibly because the color coding pertained to labels in languages other than Vietnamese.[6]

[6] As described in Brief 1 and the Sample Report, the 24 classrooms with Vietnamese-language DLLs had more Spanish-language DLLs (6.7) than Vietnamese-language DLLs (4.7), and averaged more teaching team speaking time in Spanish (16%) than in Vietnamese (6%).

Instructional Practices for Supporting DLLs

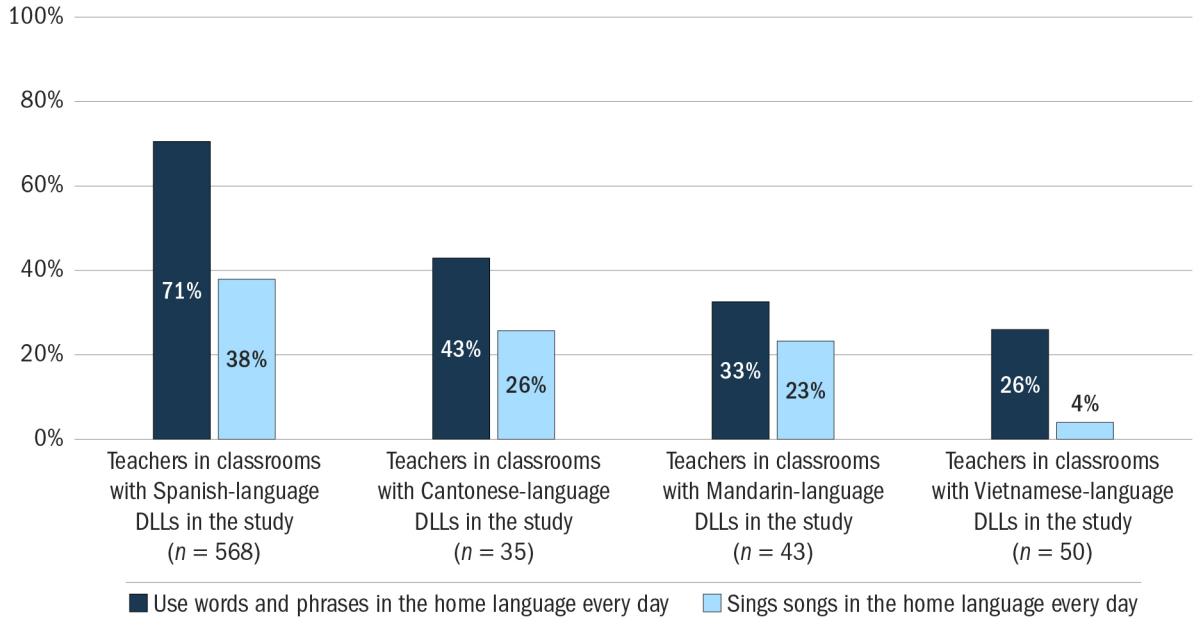
We explored three different types of practices: use of basic phrases and songs in the home language, general (language-independent) strategies for supporting DLLs, and use of small groups for DLLs.

Use of Basic Phrases and Songs in the Home Language

Even if teachers do not know a language, they can still learn to use some very basic words or phrases (e.g., "hello" and "thank you") in the child's home language, and sing some simple songs in the language, to help create a culturally and linguistically responsive learning environment for young DLLs (Espinosa & Crandell, 2020). We asked teachers how often they or other classroom staff used each of these two types of strategies, on a scale from *never* to *every day*. Again, teachers answered these questions separately for each of the four study languages represented by DLLs in their classroom.

As Exhibit 3 shows, more than two thirds of teachers in classrooms with Spanish-language DLLs reported using words and phrases in Spanish every day; almost 40% reported singing songs in Spanish every day. These strategies were used less often in the other three home language classroom groups. The percentage of teachers reporting the use of words and phrases in the home language ranged from 26% of teachers in classrooms with Vietnamese-language DLLs to 43% of teachers in classrooms with Cantonese-language DLLs. For singing songs in the home language, percentages were even smaller, especially for Vietnamese, where only 4% of teachers in classrooms with Vietnamese-language DLLs reported singing songs in Vietnamese.

Exhibit 3. Percentage of Teachers Who Reported That Basic Phrases or Songs in the Home Language Were Used in Their Classroom *Every Day*



*Note: N*s and percentages are at the teacher level and do not account for the fact that many classrooms had multiple teachers. In the first set of bars (Spanish), the *n* of 568 pertains to the use of words & phrases; the *n* for singing songs is 573. (In the other three sets of bars, the *n* pertains to both bars in the pair.) Exhibit excludes teachers who reported no DLLs of the language and thus did not answer the relevant survey questions.

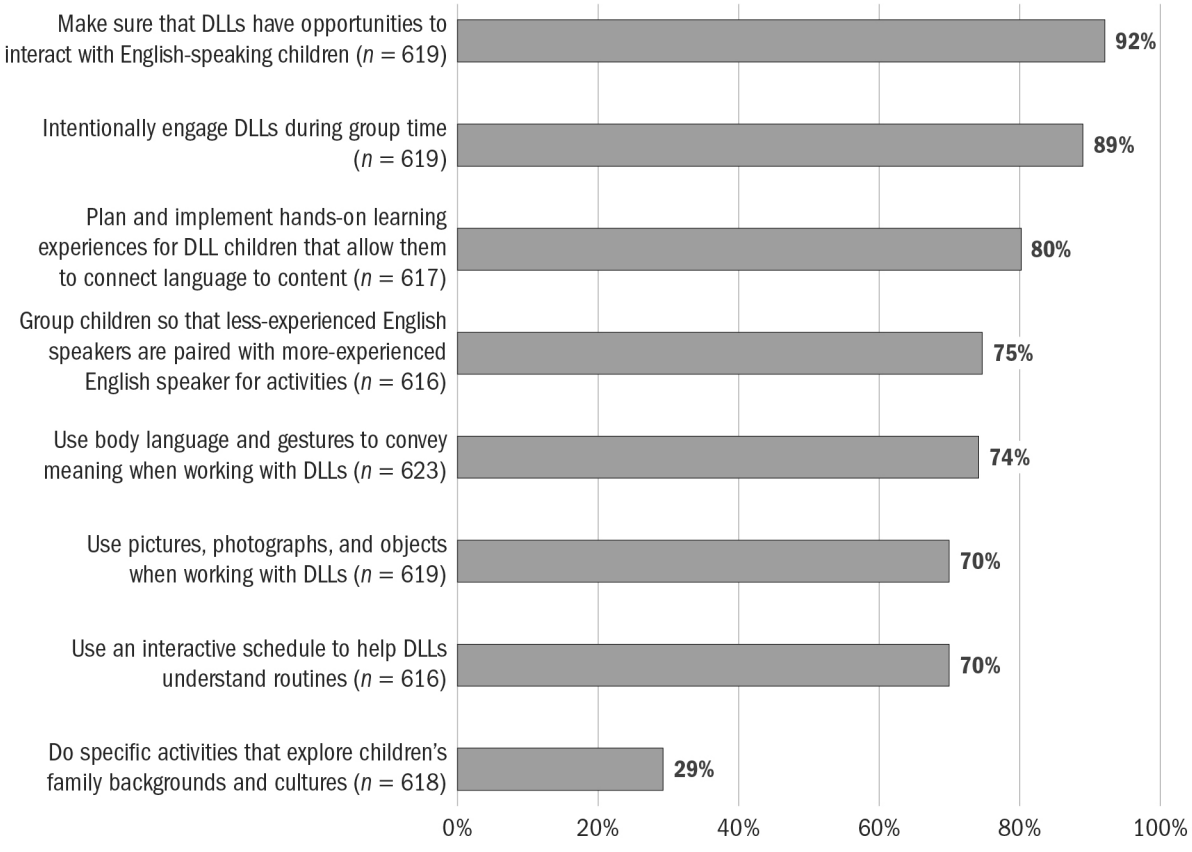
General Strategies for Working With DLLs

We also asked teachers how often (on a scale from *never* to *every day*) they themselves used eight different evidence-based strategies that do not require the use of the home language in their work with DLLs. Because these strategies, unlike the others discussed in this brief, are not specific to a particular language, we asked all teachers about them regardless of the DLL composition of their classroom. Therefore, the findings presented in this section are not disaggregated by home language group.

Key Finding: Most teachers reported daily use of several different language-independent strategies for working with DLLs, such as making sure that DLLs had opportunities to interact with English-speaking children, engaging DLLs during group time, and implementing hands-on learning activities for DLLs to connect language to content.

As shown in Exhibit 4, most teachers reported using nearly every strategy we asked about every day. The activities that the highest percentages of teachers reporting using them every day were making sure that DLLs had opportunities to interact with English-speaking children (reported by 92% of teachers), engaging DLLs during group times (89%), and implementing hands-on learning activities for DLLs to connect language to content (80%). The only strategy that less than half of teachers reported using every day was the use of specific activities exploring children's family backgrounds and cultures.

Exhibit 4. Percentage of Teachers Who Reported Using Various General Strategies for Working With DLLs *Every Day*



Note: Ns and percentages are at the teacher level, and do not account for the fact that many classrooms had multiple teachers.

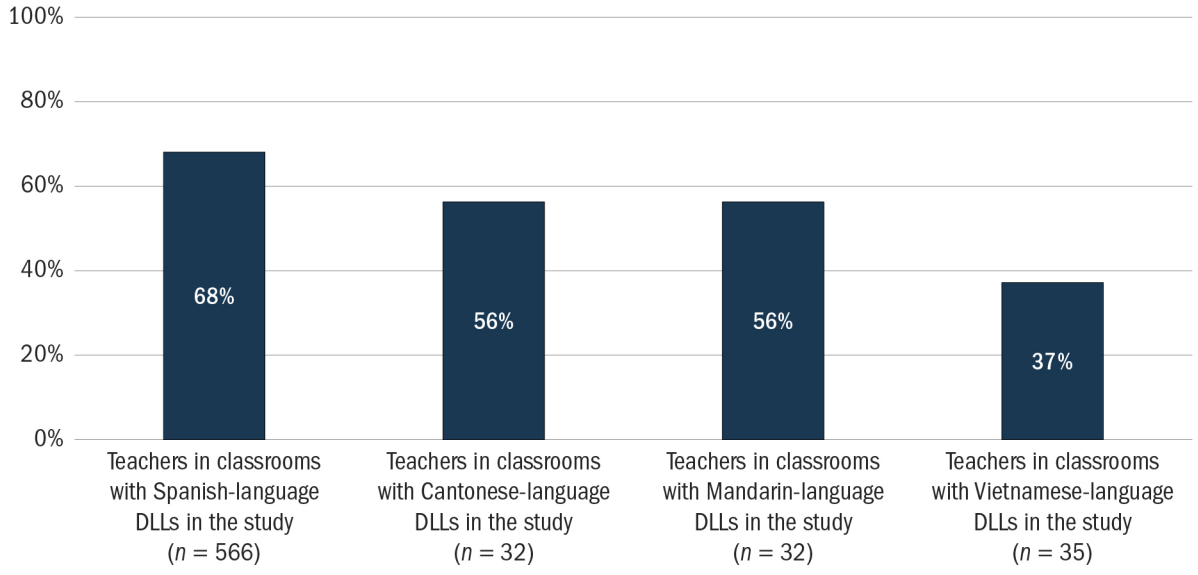
It should be noted that some of these general strategies, such as providing hands-on experiences, are part of general best practices for the early education of young children, as evidenced by their presence in the Classroom Assessment Scoring System (CLASS) for preschoolers (Pianta et al., 2008). However, given DLLs' unique developmental trajectories and need for additional targeted supports to promote learning, the use of DLL-specific strategies, such as using body language and gestures to convey meaning for DLLs as they learn new vocabulary, are also necessary (Castro et al., 2011). These additional strategies are present in DLL classroom-quality measures, such as the Classroom Assessment of Supports for Emergent Bilingual Acquisition (CASEBA; Freedson et al., 2014), and have been shown to relate to DLLs' learning (Figueras-Daniel & Li, 2021; White et al., 2020).

Small Groups of DLLs With a Shared Language Background

Finally, we asked teachers how often (again on a scale from *never* to *every day*) they or other classroom staff formed small groups of DLLs from each home language background for four different purposes: to build their English skills, to build their home language skills, for their general learning, and for activities in general. Exhibit 5 presents the percentage of teachers who reported the use of small groups every day for any of these purposes.

In classrooms with Spanish-language DLLs, about two thirds (68%) of teachers reported that they or other classroom staff formed small groups of Spanish-language DLLs every day (for one or more of the four purposes). For both Cantonese and Mandarin, the corresponding percentage was 56%; for Vietnamese, it was 37%.

Exhibit 5. Percentage of Teachers Who Reported That Small Language-Specific Groups Were Used in Their Classroom Every Day



*Note: N*s and percentages are at the teacher level and do not account for the fact that many classrooms had multiple teachers. We only asked teachers the questions about small groups of home-language speakers if they reported that the class had at least two DLLs of that language background. Thus, the teacher and classroom *N*s are a little smaller for this measure than for the other language-specific measures, especially for the three Asian language groups.

Relationships Between Strategies for Teachers Who Do Not Speak the Home Language and Child Outcomes

Separately for DLLs of each of the four study languages, we examined the extent to which each of the five types of strategies described in the previous section was related to child outcomes.

Rather than examining how each individual survey item described in the previous section was related to child outcomes, we created measures to capture overall use of each of the five types of strategies. The number of books in the home language (per DLL of that language) was its own measure, but for each of the other four, we constructed a summary measure by averaging each teacher's responses across the survey items constituting the measure. (For example, we created a measure gauging how often each teacher used general strategies for supporting DLLs by averaging their responses across the eight survey items shown in Exhibit 4). Then, because children are presumably influenced by all of the teachers in their classroom (and because we had no way to isolate the influences of particular teachers on particular children), we averaged the survey responses of teachers within each classroom to create classroom-level measures.[7] We did this for all five strategies, including books in the home language.

We examined 10 different child outcomes. Eight of them were based on direct assessment of study children by trained assessors. These included three skills—vocabulary, oral comprehension, and basic mathematics—assessed *both* in English and in the home language, for a total of six outcome measures. The other two directly assessed outcomes—basic literacy skills and executive function—were administered *either* in English or in the home language, whichever the child performed better in on the vocabulary and oral comprehension assessments. In addition, from the pair of vocabulary measures, we calculated a measure of bilingualism. The 10th outcome was a parent-reported measure of the child's social-emotional well-being.

Findings are based on data for 1,604 children in the 271 classrooms.[8] The assessments were administered in late 2019 and early 2020, prior to disruptions caused by the COVID-19 pandemic.[9] Further detail about the child outcomes, including the assessments used and descriptive information about how children performed on each one, is provided in the Sample Report.

Analyses of the relationships between the classroom strategies and child outcomes controlled for child and family background characteristics, and, when sample sizes were sufficiently large, classroom

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[7] In calculating these classroom-level averages, we gave more weight to teachers who indicated having a classroom role with greater responsibility (such as lead teacher), teachers who had been teaching in the classroom for more than a few months, and teachers who spent more time in the classroom, on the assumption that these teachers would exert the greatest influence on the children they were working with.

[8] Not every child had scores for all 10 assessments. However, most of the children who were directly assessed had scores for at least six of the eight direct assessments, plus the bilingualism measure. About 30% did not have a score on the two mathematics assessments because these assessments were administered only to children aged four and older. In addition, small sample sizes prohibited analysis of some of the outcomes for Mandarin and Vietnamese.

[9] Because of the pandemic, the study was only able to assess children once, so we are unable to make inferences about what helps their skills improve over time. We could only examine how children exposed to different types of practices performed relative to one another.

background characteristics.[10] The large number of Spanish-language DLLs in the sample allowed for inclusion of many different background characteristics in the analyses of these children's outcomes; examples include measures of the children's language environments at home, the extent to which parents selected their early learning program for its language approach, and teacher proficiency in both English and Spanish. Fewer control variables could be included in the analyses for the other three home language groups, for which sample sizes were much smaller. The Sample Report details the variables included as controls in each analysis.

Results for Spanish-Language DLLs

Key Finding: Having more books in Spanish in the classroom and teacher use of basic phrases and songs in Spanish were both positively associated with the performance of Spanish-language DLLs on outcomes assessed in Spanish.

Exhibit 6 shows the relationships between the classroom environmental support measures and child outcomes for Spanish-language DLLs. The strongest relationships were for the books measure, which had a significant positive relationship with performance on three of the 10 outcomes: Spanish vocabulary, Spanish oral comprehension, and bilingualism. The frequency of basic Spanish use (simple phrases and songs), meanwhile, was significantly positively associated, although more weakly, with performance on five outcomes: all three of the Spanish outcomes (vocabulary, oral comprehension, and basic mathematics), literacy skills, and executive functioning. Therefore, overall, the more books in the home language the classroom had and the more often teaching teams used basic phrases and songs in the home language, the better Spanish-language DLLs performed on several different outcomes.

The use of labels and small groups of Spanish-language DLLs each had a positive (though weak) association with Spanish vocabulary. Use of basic phrases and songs in Spanish had a significant negative relationship with English vocabulary. Frequency of general language-independent strategies (e.g., engaging DLLs during group time and making sure they had opportunities to interact with English-speaking children) did not have a statistically significant positive relationship with any of the outcomes, and in fact had a marginally significant negative relationship with oral comprehension as assessed in both English and Spanish.

[10] In addition, analyses for the Spanish-language DLLs used multilevel modeling to account for the fact that many classrooms in the study had more than one child participating and that many early learning and care programs in the study had more than one classroom participating. For Cantonese, Mandarin, and Vietnamese, which had much smaller sample sizes, some analyses permitted accounting for multiple children in each classroom but not for multiple classrooms within program; others did not permit multilevel modeling at all.

Exhibit 6. Summary of Relationships Between Strategies for Teachers Who Do Not Speak the Home Language and Child Outcomes: Spanish-Language DLLs

	Environmental Supports		Instructional Strategies		
	Number of Books in Spanish per Spanish-Language DLL	Labels	Use of Basic Phrases and Songs in Spanish	Small Groups of Spanish-Language DLLs	General Strategies to Support DLLs
Outcomes Assessed in English					
English Vocabulary	Ø	Ø	↓†	Ø	Ø
English Oral Comprehension	Ø	Ø	Ø	Ø	↓†
Basic Mathematics	Ø	Ø	Ø	Ø	Ø
Outcomes Assessed in Spanish					
Spanish Vocabulary	↑***	↑†	↑**	↑†	Ø
Spanish Oral Comprehension	↑**	Ø	↑†	Ø	↓†
Basic Mathematics	Ø	Ø	↑*	Ø	Ø
Hybrid or Other Outcomes					
Bilingualism	↑***	Ø	Ø	Ø	Ø
Literacy Skills	Ø	Ø	↑†	Ø	Ø
Executive Functioning	Ø	Ø	↑*	Ø	Ø
Social-Emotional Well-Being	Ø	Ø	Ø	Ø	Ø

Note. ↑ indicates a statistically significant positive relationship; ↓ indicates a statistically significant negative relationship; Ø indicates no (statistically significant) relationship. The number of children included in analyses ranges from 837 to 857 on the social-emotional outcome (which was based on parent report), from 937 to 954 across the two mathematics outcomes (which were administered only to children aged 4 and older), and from 1,270 to 1,304 across the other eight outcomes.

***$p < .001$; **$p < .01$; *$p < .05$; †$p < .10$.

Results for Cantonese-Language DLLs

Key Finding: Teacher use of basic phrases and songs in Cantonese was positively related to Cantonese vocabulary, Cantonese oral comprehension, and bilingualism for Cantonese-language DLLs.

As shown in Exhibit 7, the number of books classrooms had in Cantonese (per Cantonese-language DLL) had a strong and positive relationship with DLLs' oral comprehension in that language (but not with any other outcomes). In addition, the frequency with which teaching teams used basic phrases and songs in Cantonese was significantly positively associated with performance on three outcomes: two of the Cantonese language measures (vocabulary and oral comprehension), plus bilingualism. Frequency of small groups of Cantonese-language DLLs was also positively associated (though marginally) with bilingualism.

The frequency of general strategies for working with DLLs was not significantly related to any of the 10 outcomes; nor was the use of labels. It should be noted that the sample of Cantonese-language DLLs was quite small, as was the number of classrooms they were in, so our statistical analyses are less precise and less able to detect weak associations between practices and outcomes.

Exhibit 7. Summary of Relationships Between Strategies for Teachers Who Do Not Speak the Home Language and Child Outcomes: Cantonese-Language DLLs

	Environmental Supports		Instructional Strategies		
	Number of Books in Cantonese per Cantonese-Language DLL	Labels	Use of Basic Phrases and Songs in Cantonese	Small Groups of Cantonese-Language DLLs	General Strategies to Support DLLs
Outcomes Assessed in English					
English Vocabulary	Ø	Ø	Ø	Ø	Ø
English Oral Comprehension	Ø	Ø	Ø	Ø	Ø
Basic Mathematics	Ø	Ø	Ø	Ø	Ø
Outcomes Assessed in Cantonese					
Cantonese Vocabulary	Ø	Ø	↑**	Ø	Ø
Cantonese Oral Comprehension	↑*	Ø	↑†	Ø	Ø
Basic Mathematics	Ø	Ø	Ø	Ø	Ø
Hybrid or Other Outcomes					
Bilingualism	Ø	Ø	↑*	↑†	Ø
Literacy Skills	Ø	Ø	Ø	Ø	Ø
Executive Functioning	Ø	Ø	Ø	Ø	Ø
Social-Emotional Well-Being	Ø	Ø	Ø	Ø	Ø

Note. ↑ indicates a statistically significant positive relationship; ↓ indicates a statistically significant negative relationship; Ø indicates no (statistically significant) relationship. The number of children included in analyses ranges from 62 to 70 on the social-emotional outcome (which was based on parent report), from 47 to 52 across the two mathematics outcomes (which were administered only to children 4 and older), from 74 to 80 on executive functioning, and from 83 to 98 across the other seven outcomes.

$^{**}p < .01$; $^{*}p < .05$; $^{\dagger}p < .10$.

Results for Mandarin-Language DLLs

Key Finding: For Mandarin-language DLLs, teacher use of general (language-independent) strategies for working with DLLs was related to better performance in both Mandarin and English vocabulary, and relatedly to bilingualism. The number of books in Mandarin also was positively related to DLLs' oral comprehension in Mandarin.

As with Cantonese and Spanish, the number of books classrooms had in Mandarin (per Mandarin-language DLL) was positively related to outcomes, though some different ones: bilingualism and English vocabulary (Exhibit 8). But unlike the findings for the Cantonese and Spanish language groups, the use of general strategies for working with DLLs had a significant positive relationship with three outcomes for Mandarin-language DLLs: vocabulary in both English and Mandarin, and (relatedly) bilingualism. Mandarin vocabulary

was also significantly correlated with the use of small groups of Mandarin-language DLLs and (more weakly) with use of basic phrases and songs in Mandarin. The use of labels was not related to any of the 10 outcomes.

The sample of Mandarin-language DLLs was also quite small—even smaller than that of Cantonese-language DLLs. Therefore, similar caveats about our estimates and statistical significance apply. Moreover, because of the small sample size, we were unable to conduct analyses for basic mathematics (in either English or Mandarin) or social-emotional well-being for classrooms with Mandarin-language DLLs.

Exhibit 8. Summary of Relationships Between Strategies for Teachers Who Do Not Speak the Home Language and Child Outcomes: Mandarin-Language DLLs

	Environmental Supports		Instructional Strategies		
	Number of Books in Mandarin per Mandarin-Language DLL	Labels	Use of Basic Phrases and Songs in Mandarin	Small Groups of Mandarin-Language DLLs	General Strategies to Support DLLs
Outcomes Assessed in English					
English Vocabulary	↑*	Ø	Ø	Ø	↑†
English Oral Comprehension	Ø	Ø	Ø	Ø	Ø
Outcomes Assessed in Mandarin					
Mandarin Vocabulary	Ø	Ø	↑†	↑*	↑**
Mandarin Oral Comprehension	Ø	Ø	Ø	Ø	Ø
Hybrid or Other Outcomes					
Bilingualism	↑†	Ø	Ø	Ø	↑**
Literacy Skills	Ø	Ø	Ø	Ø	Ø
Executive Functioning	Ø	Ø	Ø	Ø	Ø

Note. ↑ indicates a statistically significant positive relationship; ↓ indicates a statistically significant negative relationship; Ø indicates no (statistically significant) relationship. The number of children included in analyses ranges from 39 to 45. Because of small sample sizes, we did not analyze basic mathematics (in either English or Mandarin) or social-emotional well-being for Mandarin-language DLLs.

**$p < .01$; *$p < .05$; †$p < .10$.

Results for Vietnamese-Language DLLs

Key Finding: None of the strategies explored in this brief were positively related to child outcomes for Vietnamese-language DLLs.

As shown in Exhibit 9, none of the strategies we examined were positively associated with outcomes for DLLs from a Vietnamese language background. The use of small groups for Vietnamese DLLs had a weak negative relationship with Vietnamese oral comprehension and basic mathematics assessed in Vietnamese. These results could reflect the fact that in many of the study classrooms with Vietnamese-language DLLs, these DLLs were outnumbered by DLLs of other language backgrounds (mainly Spanish; see the Sample Report). Moreover, the sample of Vietnamese-language DLLs was also very small.

Exhibit 9. Summary of Relationships Between Strategies for Teachers Who Do Not Speak the Home Language and Child Outcomes: Vietnamese-Language DLLs

	Environmental Supports		Instructional Strategies		
	Number of Books in Vietnamese per Vietnamese-Language DLL	Labels	Use of Basic Phrases and Songs in Vietnamese	Small Groups of Vietnamese-Language DLLs	General Strategies to Support DLLs
Outcomes Assessed in English					
English Vocabulary	Ø	Ø	Ø	Ø	Ø
English Oral Comprehension	Ø	Ø	Ø	Ø	Ø
Basic Mathematics	Ø	Ø	Ø	Ø	Ø
Outcomes Assessed in Vietnamese					
Cantonese Vocabulary	Ø	Ø	Ø	↓†	Ø
Cantonese Oral Comprehension	Ø	Ø	Ø	↓†	Ø
Basic Mathematics	Ø	Ø	Ø	Ø	Ø
Hybrid or Other Outcomes					
Bilingualism	Ø	Ø	Ø	Ø	Ø
Literacy Skills	Ø	Ø	Ø	Ø	Ø
Executive Functioning	Ø	Ø	Ø	Ø	Ø
Social-Emotional Well-Being	Ø	Ø	Ø	Ø	Ø

Note. ↑ indicates a statistically significant positive relationship; ↓ indicates a statistically significant negative relationship; Ø indicates no (statistically significant) relationship. The number of children included in analyses ranges from 40 to 42 for both mathematics outcomes, from 48 to 51 for executive functioning, and from 40 to 56 for all other outcomes. Because of small sample size, we did not analyze social-emotional well-being for Vietnamese-language DLLs.

†$p < .10$.

Classroom Use of Media in the Home Language

The use of educational media for DLLs may also be a useful support for their learning, though existing research on this strategy is limited and largely focused on English learning rather than home language development (e.g., Silverman & Hines, 2009). We examined how often, on a scale from *never* to *every day,* teaching teams exposed DLLs to each of three types of media—videos, audio recordings, and electronic games—in the home language.

The majority of classrooms with Spanish-language DLLs (85%) had at least some use of media (according to one or more teachers in the classroom). The corresponding percentages for the other languages were lower—39% for Cantonese, 57% for Mandarin, and 58% for Vietnamese—perhaps reflecting less availability of media in these languages, lower teacher familiarity with media, or less ability to vet its quality.

We analyzed the relationship between media use and child outcomes in the same way we analyzed the other strategies described in this brief. We found that in classrooms with Spanish-language DLLs, frequency of media use had a positive relationship with Spanish vocabulary; in Cantonese-language DLL classrooms, frequency of media use was positively related to bilingualism. In classrooms with Vietnamese DLLs, on the other hand, frequency of media use was negatively associated with seven of the nine outcomes (all except English vocabulary and the bilingual measure). This may have something to do with the quality of the media available in different languages or how the media are used; alternatively, other unmeasured factors could be contributing to the different results by language group. Given the increase in media available to support DLLs' learning, further evaluation of learning media across languages might be warranted.

Summary, Discussion, and Implications

This brief has explored environmental and instructional supports that can be used by teachers regardless of their own language skills and how these supports relate to learning outcomes for DLLs. We found **that the number of books in the home language per DLL was positively related to child outcomes, as was the use of basic phrases and songs in the home language.** There was greater evidence for these relationships among Spanish-language DLLs than among Cantonese-, Mandarin-, and Vietnamese-language DLLs, possibly as a function of differing sample sizes. Vietnamese-language DLLs were also underrepresented among DLLs in their classrooms, which may help explain the lack of effects for strategies we found to be associated with outcomes for the other home language groups.

Our findings support and extend previous research that has identified important components of effective instruction for DLLs (NASEM, 2017). These findings have the following implications for policy and practice:

- **State and local funds should be reserved for providing early learning and care programs with books and materials that reflect the home languages and cultures of DLLs** in their classrooms. About three quarters of early learning program directors in California report challenges in having enough high-quality books in DLLs' home languages (Brodziak de los Reyes et al., 2021) and these books benefit DLL children in many different ways. This therefore deserves to be a priority focus. F5CA has already made significant investments in distributing home language books to programs and families, and plans to continue this work.
- **Professional development for teachers should focus on building the skills of educators to support the learning of DLLs, regardless of whether there is a language match between the teachers and the DLL children in their classrooms.** More than two thirds of early learning programs reported that

LIMITATIONS AND FUTURE RESEARCH

The number of Cantonese-, Mandarin-, and Vietnamese-language DLLs in the study sample was quite small, as was the number of classrooms they were in, thereby limiting the inferences we could make about these groups. Further research should concentrate on these groups by purposefully recruiting larger numbers of early learning programs that serve DLLs from language backgrounds other than Spanish.

Also, our survey measures, based on teacher self-report, do not gauge the *quality* of the practices teachers reported. For these reasons, classroom observations would be a useful component of future research. (Our study design called for observing classrooms in addition to surveying teachers, but the COVID-19 pandemic prevented those observations from taking place.)

This brief considered use of basic phrases and songs in the home language to be a strategy that teachers who do not speak the home language can use. However, this measure correlated moderately highly (for Spanish) or very highly (for Cantonese and Mandarin) with more general measures of teaching teams' home language use discussed in Brief 1, such as the percentage of time that teachers used the home language. Further research should investigate the effectiveness of using basic phrases and songs as a strategy apart from other use of the home language.

Finally, focusing on how media use in the home language may help children's language skills development is another area for further research.

they did not have enough early educators who are trained to work specifically with DLLs (Brodziak de los Reyes et al., 2020). Given the high degree of language diversity in California's early learning classrooms and the positive associations with outcomes of home language use in the classroom, professional development should help teachers apply home language–focused strategies in their classrooms even if they do not master those languages themselves. These strategies can include using basic words or phrases, and singing songs in the children's home language.

Because many California early learning classrooms have children from diverse home language backgrounds, teaching teams need be equipped with a set of strategies and materials to support DLLs' learning. The results shared in this brief provide evidence for the importance of environmental supports and instructional strategies that teachers can use even if they do not speak the languages of the DLLs in their care.

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About the First 5 California DLL Pilot Study

In 2015, First 5 California committed $20 million for a "DLL Pilot" to identify and promote effective, scalable strategies that early learning and care programs can use to support DLLs and their families. A key component of this initiative is a study focused on three high-leverage areas: instructional practices, professional development for early educators, and family engagement. The study is examining the practices used across different early learning settings, diverse language groups, and DLLs of varying ages and backgrounds, and the extent to which various practices are associated with child and family outcomes. Sixteen counties, selected to be broadly representative of California's DLL population, are participating in the DLL Pilot: Butte, Calaveras, Contra Costa, Fresno, Los Angeles, Monterey, Orange, Riverside, Sacramento, San Diego, San Francisco, Santa Barbara, Santa Clara, Sonoma, Stanislaus, and Yolo. The study is being conducted by the American Institutes for Research in partnership with Juárez & Associates; CRI; School Readiness Consulting; Allen, Shea & Associates; and Stanfield Systems, Inc. Guidance is provided by a DLL Input Group composed of stakeholders, advocates, and state and national experts on DLLs.

For more information about the study and to read other study briefs and reports:

https://californiadllstudy.org/

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