Sobrato Family Foundation

Early Academic and Literacy Project

After Five Full Years of Implementation

FINAL RESEARCH REPORT

San Jose Unified School District, San Jose, CA

and

Redwood City School District, Redwood City, CA

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Executive Summary

This report provides an analysis of the Sobrato Family Foundation Early Academic and Literacy project in Redwood City and San Jose Unified school districts after four years of implementation. This report examines the progress of four cohorts of children who received one year of a SEAL preschool and then moved into a SEAL kindergarten through first, second, or third grade. The focus of this final report was on the general findings for SEAL students as a group. Outcome data are available for 391 Full SEAL and 372 Partial SEAL students (who received some SEAL program in the elementary grades but did not attend SEAL preschool). The major question is: What do we know about the language, literacy, and mathematics development in grades PreK to 3 of the three student cohorts after four years of SEAL implementation? Students' language, literacy, math development were assessed with five assessment measures in English and Spanish. Major findings include:

- **Overall, there was a high level of implementation of SEAL components by project teachers, with most teachers strong in all of the instructional components.**
- SEAL students entered preschool and kindergarten with a low level of language and literacy as measured in both English and Spanish. **SEAL students at all grade levels demonstrated statistically significant growth on all measures of language, literacy, mathematics, cognitive, and social development in both Spanish and in English**.
- **Full SEAL students scored significantly higher than Partial SEAL students (who did not receive the preschool instruction);** these results were particularly evident in second and third grades and this advantage was found in most assessments.
- **SEAL students tended to show similar levels of growth and achievement in language, literacy, and mathematics achievement compared to their peers who were demographically similar;** this was particularly true for Full SEAL students by grades 2-3.
- **There is significant variation in the populations and outcomes across the three SEAL sites:** There are significant differences in the levels of parent education across the three sites and varying degrees of growth in student language proficiency and academic achievement, but all sites show significant growth.
- **By third grade (and fourth grade for the CELDT), students receiving Bilingual instruction scored similarly or higher than students receiving English instruction** on the California English Language Development Test, the California Standards Test in both language arts and math, and the Standards Test in Spanish in both language arts and math.
- **Fluent Spanish speakers scored higher than Limited Spanish speakers** in second and third grades on all assessment measures in English.
- **SEAL has had a significant impact on parents and literacy activities in the home**: SEAL students come from homes with very low incomes ($27,384 per family of 4) and very low parent education levels (87% with high school or less). Most SEAL parents have at least rudimentary literacy skills in Spanish, though few parents have basic literacy or oral language skills in English. Yet, half of SEAL parents read books with their child on a daily basis, and engage regularly in literacy-related activities. Further, parent engagement was significantly related to student outcomes.

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Part I.

Introduction

and

Brief Overview of

Research

Demographic Contexts Influencing Education Programs

The United States has experienced considerable immigration over many decades and particularly in the past 25 years. The fastest growing group in the US, Hispanics, currently represents about 16% of the US population, but will increase to 31% by 2060. Only the country of Mexico has a higher population of Hispanics than the US (112 million vs. 51 million). Demographic variations in California mirror the increasing population, with tremendous growth in the Hispanic *student population*, which is already 53%. While overall school growth will slow, the Hispanic enrollment is expected to increase by over 900,000 over the next few years.

According to National Center for Educational statistics (Planty, Hussar, Snyder, Kena, Kewal, Ramani, Kemp, Bianco, & Dinkes, 2009), in 2007 about 10.8 million (or 20%) school-aged children spoke a language other than English at home, and 5% (2.7 million) spoke English with difficulty. They are currently the fast growing population in the US and the number of English Learners (ELs) is expected to increase another 50% by 2025 (Passel, 2007). Hispanic children represent the largest number of children who speak English with difficulty (2.1 million).

In California, the English Learner (EL) population has remained constant over the past 10 years – at 25%, though the figure is 33% at the elementary level.

Redwood City School District, particularly Hoover Elementary School, and San Jose Unified School District, especially Almaden and Gardner schools, reflect this surge in the Hispanic and EL population. As the textbox to the right shows, these three elementary schools have mostly Hispanic students, and a high percentage of economically disadvantaged students and EL students, and the representation of these groups is much higher than the district, county and state averages.

California, District, and SEAL Schools
Ethnicity, Language, & Socio-Economic Factors
(in percents)

2012/13

	% Minority	% Hispanic
California	75	53
San Mateo County	71	38
Redwood City SD	81	73
Hoover School	**99**	**95**
Santa Clara County	78	39
San Jose Unified SD	74	52
Almaden School	**94**	**84**
Gardner School	**98**	**90**

	% English Learners
California	22%
San Mateo County	24%
Redwood City SD	45%
Hoover School	**70%**
Santa Clara County	24%
San Jose Unified SD	23%
Almaden School	**59%**
Gardner School	**59%**

	% Free/Reduced Lunch
California	58%
San Mateo County	35%
Redwood City SD	65%
Hoover School	**88%**
Santa Clara County	37%
San Jose Unified SD	45%
Almaden School	**79%**
Gardner School	**76%**

Source: CDE Ed-Date Website (2012-13)

Currently, Hoover serves about 880 students, with 70% ELs, 88% economically disadvantaged, and 99% ethnic minority (95% Hispanic). Almaden provides instruction to 415 students, 94% of whom are minority and 84% Hispanic; 59% are English Learners and 79% are economically disadvantaged. At Gardner, there are 549 students, and 98% are minority, 90% are Hispanic, 59% are English Learners, and 76% are economically disadvantaged. There is considerable overlap in the population of students at these schools, with the great majority of students meeting all three of these demographic conditions. That is, the average student at all three schools is Hispanic *and* EL *and* disadvantaged.

At the Early Childhood Education (ECE) level, there are fewer background statistics about the child participants. However, it is clear that the preschool population has become more diverse – culturally, linguistically, and economically (Espinosa, 2009). Santa Clara and San Mateo counties serve 23-26% Hispanic ECE students, and the children in these homes are highly likely to have parents who have a lower level of formal education.

Why Are These Demographics Important?

Only 56% of Hispanic students graduate from high school in four years

According to all recent analyses and reports by a number of agencies and commissions, both public and private, the academic performance of Hispanic students continues to be considerably below majority norms, the high school dropout rate remains consistently high, and the college entry and completion rate is dismally low. This is particularly true for students who enter school as English Learners.

A panel of experts was convened in Washington DC to address the issues affecting the education of English Language Learners students. They agreed that without effective language education, a pattern of failure develops:

- **Students receiving no special language training inevitably fall behind in other subject matter while they struggle to learn English;**
- **Students may, over time, become fluent in oral English, but are not promoted with their peers, because they have missed several years of instruction in content areas;**
- **Students are rarely able to overcome this and are, consequently, more likely to leave school before high school graduation. EL students have one of the highest dropout rates in the country.**

Lower rates of secondary school and college completion limit the upward mobility of Hispanics in the workforce AND "If the employment picture does not change, the economic consequences of an uneducated work force will strain the economy of the United States. Hispanics are not maximizing their income potential or developing financial security. This leads to lost tax revenues, lower rates of consumer spending, reduced per capita savings and increased social costs…
By 2050, Hispanic workers will make up nearly one-quarter of the working-age population, bearing enormous financial responsibility for supporting the Baby Boom generation's retirement. These factors will put an additional strain on the Social Security system."
President's Advisory Commission on Educational Excellence for Hispanic Americans (March 2003)

This educational crisis for Hispanics and English Learners extends to the State of California and the Redwood City/Sequoia Union School Districts and the San Jose Unified School District. The four-year dropout rate for Hispanics is two times that for White students in the state, eight times higher in the Redwood City/Sequoia district, and almost three times higher in San Jose Unified. In addition, far fewer Hispanic vs. White students had passed the high school exit exam or completed the required courses to enroll at a University of California or California State University.

> In order to succeed in the 21st century, today's students need to develop linguistic and cultural literacy, including academic knowledge, proficiency in English, and in several of the world's languages and cultures. The ability to communicate in culturally appropriate ways in a variety of settings will ensure success in a technologically driven global economy and increase intercultural understanding and the benefits derived from collaborative international efforts. In order to succeed in our interconnected world, California's students need to use language and cross-cultural communication skills effectively.
> *California Department of Education*

What Works to Improve the Academic Success of English Learner Students?

Most of the research on the education of English Learning (EL) students is concerned with how to increase the English language proficiency and academic achievement of these students. A number of recent reviews of the research on EL students have been completed recently with findings converging on the consistent result that *primary language instruction promotes the English language proficiency and achievement of EL students* (August & Shanahan, 2006; Genesee, Lindholm-Leary, Saunders & Christian, 2006; Goldenberg, 2008; Lindholm-Leary & Genesee, 2010).

As part of the National Literacy Panel on Language-Minority Children and Youth funded under a contract with the US Department of Education, Francis and colleagues (2006) examined studies that compared programs that provided literacy instruction through a student's native language (bilingual program) with programs that provided literacy and other instruction only through English. Their conclusion was that:

> *Overall, where differences between two instructional conditions were found in the studies reviewed, these differences typically favored the bilingual instruction condition. This is the case for studies conducted with students in both elementary and secondary schools, and with students possessing a range of abilities. (p. 398)*

In their synthesis of available research on the language proficiency and achievement of English learners, also funded through contracts with the US Department of Education and the California Department of Education, Genesee, Lindholm-Leary, Saunders and Christian (2006) and Lindholm-Leary and Genesee (2010) found that there is strong convergent evidence that

the academic achievement of English learners is positively related to sustained instruction that includes their first language. Lindholm-Leary and Genesee (2010) reported that student achievement was related to length of participation in the program and the time of the assessment.

Evaluations conducted in the early years of a program (kindergarten through grade three) typically revealed that students in bilingual programs scored below grade level (and sometimes very low), or either lower than or equivalent to comparison group peers (English learners or non-English learners in other types of programs). In contrast, almost all evaluations conducted at the end of elementary school or in middle and high school have found that the achievement of bilingually educated students, especially those in late-exit and two-way programs, was as good as and usually higher than that of comparison groups of students … All studies of middle and high school students found that students who had received bilingual instruction in elementary school were as or more successful than comparison group students. In addition, most long-term studies report that the longer students stayed in the program, the more positive were their outcomes. These results were found for reading and mathematics achievement, GPA, attendance rates, high school completion rates.

Summary of Research on Language, Literacy, and Academic Achievement

The empirical evidence concerning the first and second oral language development of students is limited and fragmented; nonetheless, some trends are discernible in the available evidence: 1) contrary to much popular opinion, the acquisition of oral language skills in a second-language is a complex process that can take two years, or more, to acquire proficient oral language skills for general communicative purposes and a minimum of five to seven years for academic language skills (for reviews, see Saunders & O'Brien, 2006; Saunders & Goldenberg, 2010); 2) Second, the available evidence also indicates that, despite the fact that most English learners in California are educated in English mainstream classrooms, the majority lack the academic language skills needed to be reclassified as English proficient *even after 10 years of English instruction* (Parrish, Linquanti, Merickel, Quick, Laird, & Esra, 2006*)*; 3) studies that have looked at the oral language development of English learners in a dual language program indicate that *ELs in dual language programs attain the same or higher levels of oral proficiency in English as ELs in all-English programs and, at the same time, they achieve higher levels of proficiency in their native language than similar ELs in all-English programs.*

Systematic and large-scale reviews of research on literacy development in ELs in the U.S. (August & Shanahan, 2006; Genesee & Geva, 2006) have also been undertaken in the last decade. Literacy development is influenced by students' oral language skills. However, the relationship between English oral skills and English literacy is more complex in English learners than it is in native speakers of English because of cross-linguistic influences from English learners' first language on their acquisition of English reading and writing skills (see Genesee & Geva, 2006). English learners often use oral native language skills to assist them in developing English literacy prior to having acquired the necessary skills in English. Thus, *for ELs, the*

development of oral proficiency in the native language, as well as in English, and the development of reading-related skills in their first language can facilitate the development of literacy skills in English (Francis et al, 2006; Genesee & Geva, 2006; Lindholm-Leary & Genesee, 2010, 2014; Lindholm-Leary & Hernandez, 2011).

The research on dual language programs consistently demonstrates that students in dual language programs develop levels of English proficiency and demonstrate academic achievement at levels comparable to or surpassing their non-dual language peers (Genesee & Lindholm-Leary, 2006; Genesee, Lindholm-Leary, Saunders & Christian, 2006; Lindholm-Leary, 2001; Lindholm-Leary & Borsato, 2006; Lindholm-Leary & Genesee, 2010; Lindholm-Leary & Hernandez, 2011; Lindholm-Leary & Howard, 2008). Furthermore, studies of previous ELs who have reclassified as Fluent English Proficient have shown that these students attain higher levels of achievement than other non-EL or native-English-speaking students (Kim & Herman, 2009; Lindholm-Leary, 2001, 2010; Lindholm-Leary & Hernandez, 2011; OELA, 2009); they are more successful on the California High School Exit Exam (Lindholm-Leary, 2010); and their high school graduation rates were higher (OELA, 2009).

Preparation of Preschool Children

Universal preschool, which is available in many other countries, has been hailed as a promising approach for closing the large achievement gap that divides children across ethnic, racial, linguistic, and economic backgrounds (Frede and Barnett 2011; Haskins and Rouse 2005). While the achievement gap problem has received significant attention, it has been largely discussed with respect to the school-aged population. However, more educators are noting that the gap actually begins in the preschool years (Barnett and Hustedt 2003; Frede and Barnett 2011; Haskins and Rouse 2005). For example, in the Early Childhood Educational Longitudinal Study (ECLS), which is a nationally representative sample of kindergarten students in the US, results show that already by kindergarten entry, there is a noticeable and significant achievement gap in reading and math readiness skills (West, Denton, and Reaney 2001). In addition, Spanish-speaking preschoolers begin preschool with low levels of phonological awareness, letter identification, and emergent literacy skills in English, and they perform below monolingual children of the same age in both languages (Paez, Tabors, and Lopez 2007).

While many educational organizations and educators recognize the value of at least some primary language instruction in preschool, there is considerable pressure to promote English proficiency over primary language proficiency, with some states developing English language arts standards, but no accountability or professional development for teachers associated with the primary language. The accountability for English language development and lack of professional development in other languages means that many Spanish speaking or bilingual preschoolers experience English only instructional approaches. Yet, research indicates that a strong first language can serve as an important foundation for the second language and can lead to stronger achievement and second language development at the preschool (Barnett, Yarosz, Thomas and Blanco 2007; Espinosa 2007, 2009; Lopez and Greenfield 2004) and

elementary and secondary levels (Genesee, Lindholm-Leary, Saunders, and Christian 2006; Goldenberg 2008; Lindholm-Leary and Genesee 2010; Lindholm-Leary and Hernandez 2011; Lindholm-Leary and Howard 2008). Such research argues strongly for primary language or bilingual approaches.

A number of significant, long-term, and large-scale studies have been conducted to determine the effectiveness of early childhood education programs on the preparation of children for kindergarten and later life. Results from these studies show three important results:

1. Children who attend high quality preschool programs show increased cognitive functioning and reduced placement in special education classes in kindergarten and first grade. Some studies show continued advantages into adolescence, with higher school performance and lower dropout rates. The RAND study, which is the most comprehensive study to date, shows that investing in the first five years of childhood results in lasting benefits to children, their families and communities.

2. Benefits to children are more pronounced for children who are poor, where preschool results in greater savings in education since children in poverty are at greater risk for special education services.

3. Research suggests that it is best to develop the preschool children's home language because their home language serves as the foundation for learning English. The stronger their home language is, the stronger their English will be. In fact, research shows that preschoolers in dual/bilingual language programs show larger language and preliteracy gains in their two languages than preschoolers in preschools that only use the English language (Barnett, Yarosz, Thomas & Blanco, 2007).

> According to Linda Espinosa (2009), the major researcher on EL preschoolers, "For young children who are actively processing and have not yet mastered the elements of their first language, completely shifting from their first language to a new, unfamiliar language too early may have a negative effect on English fluency and academic achievement during the PK-3 years and beyond. While English can be successfully introduced during the preschool years, if it replaces the home language, and children do not have the opportunity to continue to learn in the language they know, their future linguistic, conceptual, and academic development in English is at risk. The most recent evidence suggests that *intensive support for the home language during the preschool years* will help, not hurt, long-term attainment in English. Young children can learn nursery rhymes, songs, extended vocabulary, and early literacy skills in English and their home language with adult support. EL children who receive systematic learning opportunities in their home language from ages three to eight consistently outperform those who attend English-only programs on measures of academic achievement in English during the middle and high school years."

Family Engagement

Family engagement and parent education programs have been extensively studied. According to a report from the Southwest Education Development Laboratory entitled *A New Wave of Evidence* (Henderson & Mapp, 2002), this research has consistently demonstrated that, regardless of their family income or family background, students with have parents with higher levels of engagement:

- Achieve at higher levels, earning higher grades and test scores;
- Are more likely to promote from one grade level to the next, enroll in higher-level programs, graduate, and enroll in postsecondary education;
- Attend school more regularly;
- Tend to show enhanced behavior and adaptation to school;
- Are more likely to engage in more positive parent-child interactions.

While there is a general effect of parent engagement on children's success, Lindholm-Leary (2001) report that two important background factors distinguish levels of parental engagement.

- Socio-economic status (SES), or particularly the parent's level of formal education, is very highly associated with parental involvement and consequent student achievement. Despite the correlation with SES, studies of low income ethnic minority and language minority families show the beneficial effects of parent engagement on children's achievement;
- Considerable research demonstrates the importance of parent engagement on successful student outcomes with English Learners (EL).

These results are collectively important because they illustrate the importance of parental engagement in promoting children's academic achievement and overall educational success, as well as their relationship with their parents. Further, the findings are true regardless of factors such as economic background, ethnicity, language background, and family immigrant or native-born status. Other research (Chrispeels & Gonz, 2004; Chrispeels & Rivera, 2001) shows that providing Latino parents with knowledge about school and how to participate in the education of their children can influence their children's development. Chrispeels and her colleagues note that knowledge gained in parenting programs is the strongest predictor of Latino parent involvement with their elementary-aged children.

Furthermore, as the National Educational Association Reviews of the Research on Best Practices in Education points out, students make even greater gains when schools and community organizations provide educational opportunities for parents to be more effective in their involvement with their children.

Part II.

Methodology

for

Student and School

Impacts

Description of SEAL Database

The SEAL database file structure and variables were developed in year 1 and updated each subsequent year. The overall goal was to develop a database that would address the impact questions and a file structure that would be compatible with the various ECE and CDE data collection systems, specifically the CSIS, CELDT, Language Census, and STAR File Structures. By developing a CDE-compatible file structure, we hoped to streamline the data collection process as much as possible by using variables that the schools had to collect for the state anyway, and would thus be in their data systems. Also, we felt that this assured that the data would be consistently defined across all the sites.

Table 1 below shows the major background and achievement data that were expected to be collected for each student in the SEAL project. It is also important to note that while every effort was made to collect all of this data for each site, not all sites were able to provide all the data requested. By this report, data were collected in year 1 (academic year 2009-10), year 2 (academic year 2010-11), year 3 (academic year 2011-12), year 4 (academic year 2012-13), and year 5 (academic year 2013-14).

Table 1

Types of Data Projected for Each Student

TYPE OF DATA	SPECIFIC DATA COLLECTED
County, District, School	County, district, and school names
Background & Demographic – does not vary by year	Statewide, Local, and Project Student ID Birth date Sex Ethnicity Economic status (federal lunch program)* Parent education* Home language
Background & Demographic – could vary by year	Grade level English language proficiency (EL, R-FEP) * Redesignation to Fluent English Proficient (R-FEP) * Disability type * Gifted/GATE * Retained * Years of participation in SEAL Language of instruction: Bilingual vs. English
Home Background and Language/Literacy Practices	Parent education, proficiency in English & Spanish (Years 2-3) Parent language and literacy practices (Years 2-3) Parent rating of child's language & areas of development
Language Proficiency & Achievement/Readiness	Pre-LAS and LAS CELDT total and subscores (listen, speak, read, write) CST and STS total and subscores (Year 4 only) DRDP-R (year 1); DRDP-PS (years 2-4) CPAA (Year 5 only)

Note. * these data are only available for students in grades K+.

Testing Instruments

The instruments that were used to collect student outcome data are described below.

- **California (CELDT)** is **California English Language Development Test (CELDT)** is the English language assessment selected by the state to fulfills the legal requirements of initially and annually testing English learners. The CELDT has three primary purposes as follows: (1) identify students who are English Learners (EL); (2) determine their level of English proficiency, and (3) assess their progress toward acquiring English proficiency. The CELDT covers four skill areas: listening, speaking, reading and writing. CELDT results assign students to one of five proficiency levels: Beginning, Early Intermediate, Intermediate, Early Advanced, or Advanced. Students receive an individual proficiency level for each skill and an overall proficiency level.

- **Desired Results Developmental Profile** – Revised (DRDP-R) – was developed by the California State Department of Education to be compatible with the CDE's accountability system for K-12 education. The intention is to improve the results achieved for children within child development/child care settings. There are six basic desired results measures oriented toward children's development: (1) children are personally and socially competent; (2) children are effective learners; (3) children show physical and motor competence; and (4) children are safe and healthy. Each of these desired results measures has a set of measurable indicators, such as "The child uses language to communicate with increasingly complex words and sentences". For each indicator, students are scored on their developmental level, using one of the four categories: Exploring, Developing, Building, or Integrating. Each level has an explanation for each indicator (e.g., For the indicator above, the levels are (1) Exploring – Produces phrases and simple sentences that communicate basic ideas and needs; (2) Developing – Uses 3-5 word sentences that contain nouns, verbs, and recently learned vocabulary; (3) Building – Uses words that are relatively precise and makes longer sentences by connecting shorter sentences; (4) Integrating – Uses more complex language or vocabulary to describe events that are imaginary, to explain, or to predict. Research on the DRDP-R demonstrates that most children reach the third developmental level by the end of preschool (Child Care Results, 2010). Teachers complete the DRDP-R by observing the child's behavior, interaction with others, and work samples. The DRDP-R is available in English and in Spanish.

  The DRDP was revised again, so years 2-4 students were assessed using the newer **DRDP-PS**, which includes most of the same measures, but also includes an English Language Development subscale. The seven areas of this revised measure include: 1) Self and Social Development, 2) Language and Literacy Development, 3) English Language Development, 4) Cognitive Development, 5) Mathematical Development, 6) Physical Development, and 7) Health.

- **Language Assessment Scale** for preschool through first grade (Pre-LAS) and second through sixth grade (LAS) – measures the language proficiency and pre-literacy skills of learners in early childhood education (preschool and kindergarten). The assessment is available in English and Spanish.

- **California Standards Test (CST)**, a criterion-referenced achievement test developed by the State of California to assess students' level of skills development in English language arts and the content areas (i.e., math) in grades 2-11 -- student outcomes were available for English Language Arts and Mathematics. This test categorizes students into five classifications: Far Below Basic, Below Basic, Basic, Proficient (at grade level), and Advanced (well above grade level). Scale scores are used to measure progress over time. This assessment was not given in Year 5 due to a change in the California State assessment requirements.
- **Standards Test in Spanish (STS)**, a criterion-referenced achievement test developed by the State of California to assess students' level of skills development in Spanish language arts and math in grades 2-5. This test, which is the Spanish equivalent of the CST test, categorizes students into five classifications: Far Below Basic, Below Basic, Basic, Proficient (at grade level), and Advanced (well above grade level). Scale scores are used to measure progress over time. This assessment was not given in Year 5 due to a change in the California State assessment requirements.
- **Children's Progress Academic Assessment (CPAA)** was designed to be developmentally appropriate in assessing literacy and mathematics. It is aligned to the common core standards and examines four components of early literacy (listening, phonemic awareness, phonics and writing, and reading and reading mechanics) and mathematics (measurement, numeracy, operations, and patterns and functions). In addition, the CPAA can be administered in English and in Spanish.

Status of Data

Table 2 presents the current status of data collected in years 1-5 for each district and school.

Table 2
Status of Data Collected in Years 1 - 5 for Each School

	Year 1 (2009/10)	**Year 2 (2010/11)**	**Year 3 (2011/12)**	**Year 4 (2012/13)**	**Year 5 (2013/14)**
	Cohort 1 - PreK	**Cohort 1 - K** **Cohort 2 - PreK**	**Cohort 1 - 1** **Cohort 2 – K** **Cohort 3 - PreK**	**Cohort 1 - 2** **Cohort 2 – 1** **Cohort 3 – K** **Cohort 4 – PreK**	**Cohort 1 - 3** **Cohort 2 – 2** **Cohort 3 – 1**
Cohort 1	DRDP-R, Pre-LAS	Pre-LAS, CELDT, parent surveys	Pre-LAS, CELDT, parent surveys	LAS, CELDT, CST, STS	LAS, CELDT CPAA*
Cohort 2	- NA -	DRDP-PS, Pre-LAS	Pre-LAS, CELDT, parent surveys	Pre-LAS, CELDT, parent surveys	LAS, CELDT, CPAA*
Cohort 3	- NA -	- NA -	DRDP-PS, Pre-LAS	Pre-LAS, CELDT	Pre-LAS, CELDT
Cohort 4	- NA -	- NA -	- NA -	DRDP-PS, Pre-LAS	--

* The CPAA was only administered at two of the three SEAL school sites.

Below are presented the number of *Spanish-speaking/Hispanic* students in the Cohorts 1 - 4 by grade level(s) of participation. In total, as of Spring 2014, or the end of Year 5, there are data for **763** Spanish-speaking/Hispanic children who received some version of the SEAL model and for whom there were data in Spring 2014:

- **Full SEAL Cohort 1**: **90** current third-grade children who were enrolled in a SEAL preschool and kindergarten through third grade at one of the three schools;
    - Partial SEAL Cohort 1a, 1b, 1c, 1d: **93** third-grade children who were enrolled in a SEAL third grade and/or second/first/kindergarten at one of the three schools, but these students did not participate in the SEAL preschool (though they may have attended a different preschool);

- **Full SEAL Cohort 2**: **97** current second-grade children who were enrolled in a SEAL preschool and kindergarten through second-grade at one of the three schools;
    - Partial SEAL Cohort 2a, 2b, 2c: **110** second-grade children who were enrolled in a SEAL second grade and/or first/kindergarten at one of the three schools, but these students did not participate in the SEAL preschool (though they may have attended a different preschool);

- **Full SEAL Cohort 3**: **69** current first-grade children who had participated in the SEAL preschool and kindergarten;
    - Partial SEAL Cohort 3a, 3b: **94** first-grade children who were enrolled in a SEAL first grade and/or kindergarten at one of the three schools, but these students did not participate in the SEAL preschool (though they may have attended a different preschool);

- **Full SEAL Cohort 4**: **135** current kindergarten children who had participated in the SEAL preschool in year 4. These students were not followed in AY 2013/14.
    - Partial SEAL Cohort 4a: **75** kindergarten children who were enrolled in a SEAL kindergarten at one of the three schools, but these students did not participate in the SEAL preschool (though they may have attended a different preschool);

- **All SEAL**: there were a total of **391** Cohort 1-4 students who participated in the SEAL preschool and in grade K, K-1, K-2, or K-3. Focus in this report is on students in Cohorts 1-3.
    - Partial SEAL: a total of **372** partial SEAL students are included for comparison purposes. These students did not participate in the SEAL preschool, but were included in the SEAL program at grades K-3.

The number of students in the data base and the number of students actually served may vary since the data base only contains Spanish-speaking/Hispanic students for whom there are outcome data.

Description of SEAL Children and their Families

District Background Data

It is important to emphasize that the data record is defined at the student level, and thus data were collected for each student, rather than summative data reported at the school or other group level. Of the Year 5 Full SEAL preschool through third-grade children who had background data, there was a slightly higher percentage of male over female participants (54% vs. 46%). All of the children were Hispanic, and about 4% of the students were identified for special education.

Table 3 presents information about the parent education background of the children. California classifies parents as having one of five educational levels: 1) Less than high school diploma, 2) high school diploma, 3) Some college (or technical/vocational training, 4) College degree, and 5) Graduate training. In addition, parents may opt to decline to respond, as was the case with a small percentage of the parents in this study. There was parent education information on 188 of the Full SEAL children and 148 of the Partial SEAL children; parent education data is not systematically collected at the preschool level, and thus was only available at the elementary level.

Table 3 provides the percent of parents who had the lowest two categories (a high school diploma or less) and the highest three categories (at least some college: some college or vocational training, college degree, or graduate school). Overall, 87% of Full SEAL students had parents with a high school diploma or less, though 56% of parents had less than a high school diploma; 13% of parents had at least some college, though only 2% of parents had a college degree or post-graduate education. Attention to the table shows that there was no significant variation across the SEAL sites in the percent of parents with more or less education.

Within the comparison sample of Partial SEAL Hispanic Spanish speaking students; of these parents, 85% were found in the lowest two levels of education and 15% had completed one of the highest three levels of education. Thus, the comparison sample of Partial SEAL students had parents with a similar level of parent education as the Full SEAL students. However, Table 3 also demonstrates that the SEAL students have parents with a far lower level of education than the average student in the state.

Table 3
Student Socio-Economic Description – Parent Educational Background

	Parent Education	
	High Sch Or Less	Some Coll Coll Degree
Full SEAL School A	76%	24%
Full SEAL School B	86%	14%
Full SEAL School C	91%	9%
Average – Full SEAL	87%	13%
Average – Partial SEAL	85%	15%
California State Average*	45%	55%

Note. California State Average includes all children, not just Spanish-speaking/Hispanic.

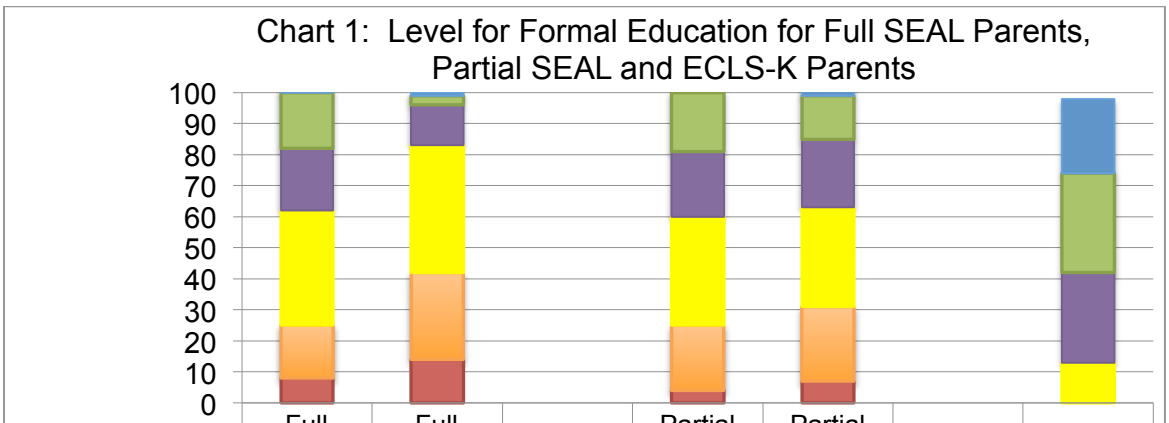
Description of SEAL Children and Families from Parent Studies

This section provides a summary of the findings for the Parent Study conducted with the parents of Spanish-speaking SEAL and Non-PreK-Partial SEAL *entering kindergarten and first grade* students during academic years 2010/11 and 2011/12. Parents were not followed in AY 2012/13, as there were no differences between the two cohorts studied in AY 2010 and AY 2011.

The results are summarized here since they provide an important context for the children's family demographics and educational home life.

1. Parent Education, Language and Literacy

Parents were asked to provide their level of formal education separately for the mother and father. As Chart 1 shows, close to two-thirds of SEAL moms and over three quarters of SEAL dads had not graduated from high school; further, a quarter of SEAL moms and half of SEAL dads had six or fewer years of formal education. Only 1% of SEAL parents had a university degree or advanced degree, and 18% of moms but only 3% of dads had some college or some technical training or special certificate. Thus, the SEAL parents can be described overall as having fairly low levels of formal education.



	Full SEAL Mom	Full SEAL Dad	.	Partial SEAL Mom	Partial SEAL Dad	.	ECLS-K
Univ +	1	1		0	10		24
Some coll	18	3		19	14		32
HS diploma	20	13		21	22		29
7-11 years	37	41		35	32		13
4-6 years	17	28		21	24		
0-3 years	8	14		4	7		

In general, the Spanish-speaking SEAL parents have far lower levels of formal education than the parents of the average student in California; 81% of SEAL Moms versus only 45% of parents of California students have a high school diploma or less. In addition, the SEAL parents have lower levels of education than the national ECLS-K sample as well, where 56% of parents have at least some college compared to only 19% of SEAL moms and 4% of SEAL dads.

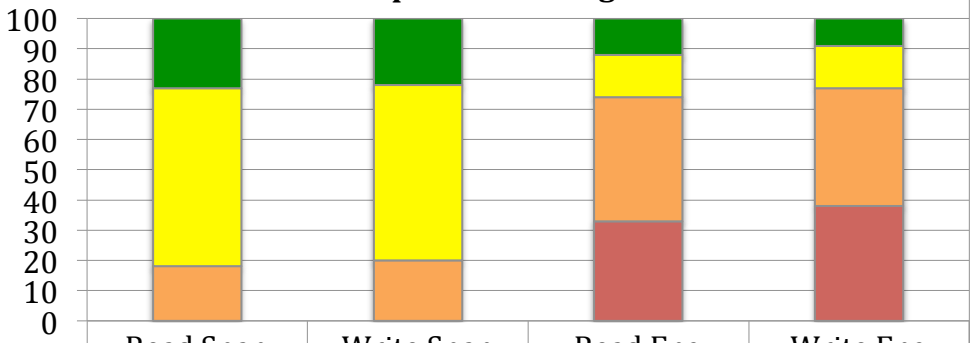
Most of the SEAL parents (95%) indicated that at least the mom or dad was currently employed. Close to a third of the parents (61%) had been in the US for 10 or more years, a quarter for 7-10 years (26%), and the remainder for 1-6 years. Length of time in the US did not vary significantly for the SEAL and Partial SEAL parents.

Parents were also asked about their level of oral and literacy skills in Spanish and English. In English, 29% of SEAL parents indicated that they *understand* at least fairly well in English, though only 6% said they understand very well. **Most parents (81%) said they could not speak English at all or not very well, though close to one fifth could *speak* at least fairly well in English.**

Over three quarters of parents responded that they *read* at least fairly well in Spanish, but less than a quarter of parents read at least fairly well in English. However, while close to a quarter of parents said they read Spanish not very well or not well at all, over three quarters of parents indicated that they have trouble reading in English. *Writing* skills in each language were rated even lower than reading skills in each language. Not surprisingly, parents' ratings of

their own reading and writing skills in both Spanish and English were highly related to their level of education (r = .40 - .46, p < .001).

Chart 2: Literacy Skills of Full SEAL Parents in Spanish and English



	Read Span	Write Span	Read Eng	Write Eng
Very well	23	22	12	9
Fairly well	59	58	14	14
Not very well	18	20	41	39
Not well at all	0	0	33	38

Overall, then, **most SEAL parents have at least rudimentary literacy skills in Spanish, though few parents have basic literacy or oral language skills in English. Partial SEAL parents rated their Spanish and English literacy significantly higher than Full SEAL parents.**

2. Language and Literacy Activities in the Home

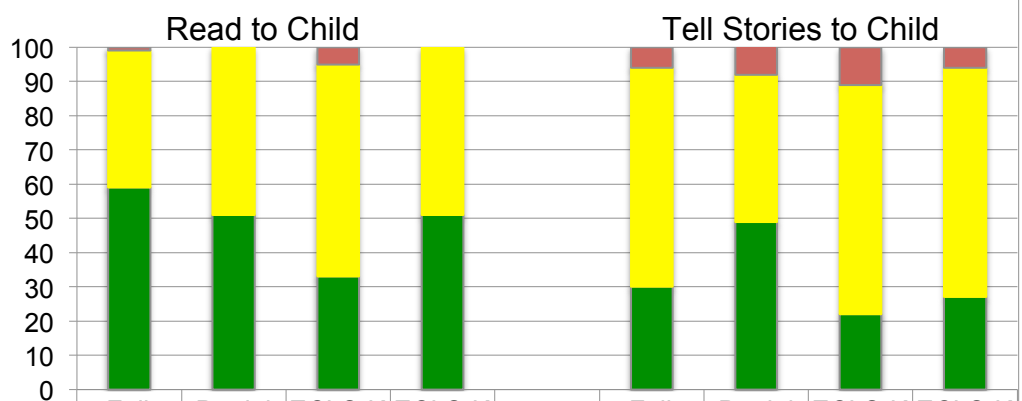
Most SEAL children were spoken to in only or mostly Spanish by most of their nuclear and extended family members. The family members most likely to use English were siblings. When parents were asked whether their child hears more Spanish or more English on a typical day, almost half of parents said their **child hears a lot more Spanish**; almost a quarter said about the same amount of Spanish and English. Almost all parents (95%) say they encourage their child to speak Spanish and also encourage their child to speak English. However, 90% of parents strongly agree (and 99% at least agree) that they want their child educated through both Spanish and English at school.

Parents were also asked how often *each week* they participate with their child around various language or literacy activities, such as reading books, telling stories, singing songs, and playing games together. **Half or more of SEAL parents participated in language and literacy activities at least a couple of times a week**. Further, half of parents read books with their child on a daily basis. It was fairly rare for parents not to engage in these activities on at least a weekly basis.

While there were few differences between parent activities of children enrolled in Bilingual vs. English/SEI programs, there was a large difference that was statistically significant: Parents read more often to their children in Bilingual vs. English programs (63% vs. 20% for every day).

In comparing the frequency with which Full SEAL family members read or told stories to the kindergarten child with the national ECLS-K sample of Hispanic parents and college-educated parents (of any ethnicity), Chart 3 shows that SEAL parents were more likely to engage in these literacy-related activities than the national sample of Hispanic parents and as likely as the college-educated parents. Also, there was no significant difference between how often Full vs. Partial SEAL read or told stories to their children.

Chart 3: How Often Family Member Reads or Tells Stories to Child Each Week - Compare to ECLS-K Samples



	Full SEAL	Partial SEAL	ECLS-K Hisp	ECLS-K College		Full SEAL	Partial SEAL	ECLS-K Hisp	ECLS-K College
Not at all	1	0	5	0		6	9	11	6
Couple/Few Times	40	49	62	49		64	43	67	67
Every day	59	51	33	51		30	49	22	27

It is surprising how often these parents engage in these language and literacy activities given their levels of formal education. In looking at whether parent literacy or parent education influenced how often parents engaged in these activities, there was no relationship; that is, parents who rated their Spanish literacy at lower levels and parents with lower levels of education were as likely to engage with their children as parents who rated their Spanish literacy at high levels or who were more highly educated. This is a surprising finding since the ECLS-K study found that there was a significant relationship between parent education and engaging in these literacy activities (West, Denton & Germino-Hausken, 2000). In addition, an analysis of the National Household Education Survey, Yarosz and Barnett (2001) reported that half of low income Spanish-speaking Moms with low levels of formal education *never* read to their children on a daily basis. Thus, these results for the SEAL parents are important as they indicate that even with low levels of Spanish literacy and education, these parents can (be

taught to) engage with their children in activities that can help promote language and pre-literacy skills.

When parents were asked the extent to which they read for pleasure at home, 62% indicated they read often for pleasure, while 33% indicated they read sometimes for pleasure. However, the frequency with which they read for pleasure is highly related to how well they read in Spanish; that is, parents who read better are more likely to read more for pleasure. This is important because parents who read more for pleasure are more likely to engage in reading activities with their child. In addition, but not surprisingly, reading for pleasure is significantly related to their level of formal education.

Parents were also asked about the frequency of their children's participation in language and literacy-related activities at home. When asked how many children's books there are in the home, 15% of SEAL parents said 1-5, a quarter responded 8-10, and 60% said 20 or more. These percentages were much higher than for the Hispanic parents in the ECLS-K study, though 22% of those parents responded with none, 67% said 1-10, and 11% had 20 or more.

Most SEAL children look at books, read or write, and color or draw at least a couple of times a week, and half or more engage in these activities every day. However, children were less likely to tell stories to adults or to play with puppets on a daily basis. In asking parents how often their children make up stories and songs on their own, a third responded "often" and over half said "sometimes". Thus, 90% of children were at least sometimes engaged in this literacy-related activity.

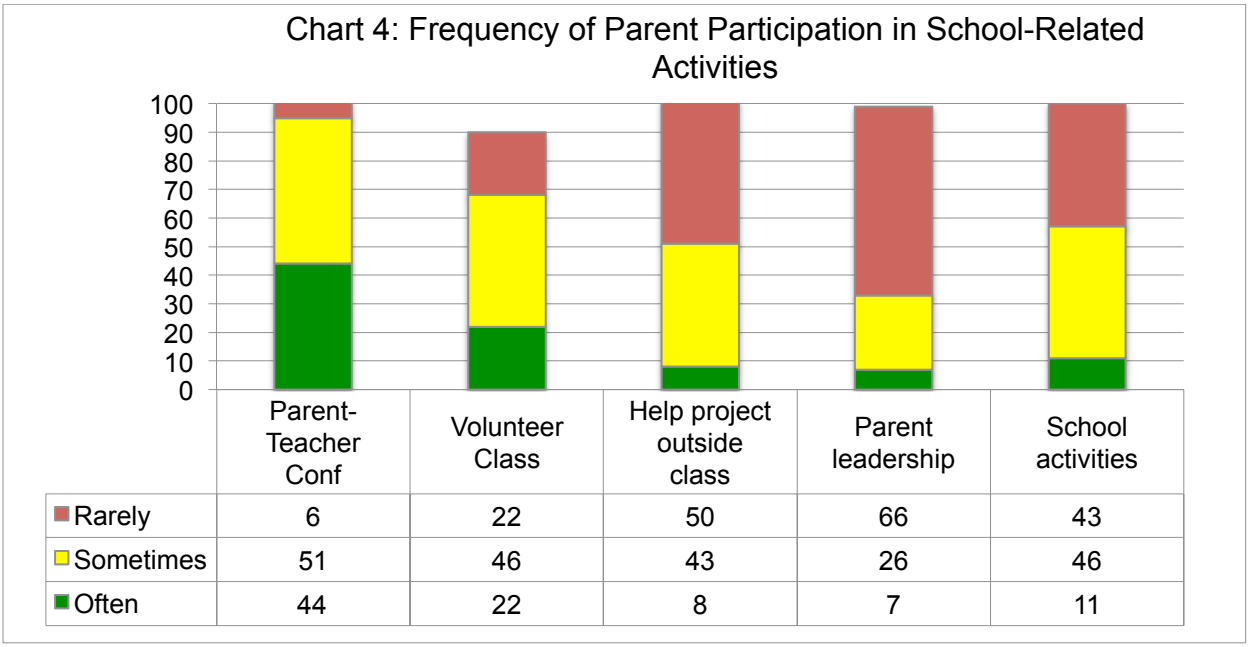
When asked if they had a computer at home, 66% of parents said they did. However, *a third of parents said their child has no access to a computer outside of school* – either at home or elsewhere.

3. Parent Engagement in School and SEAL Activities

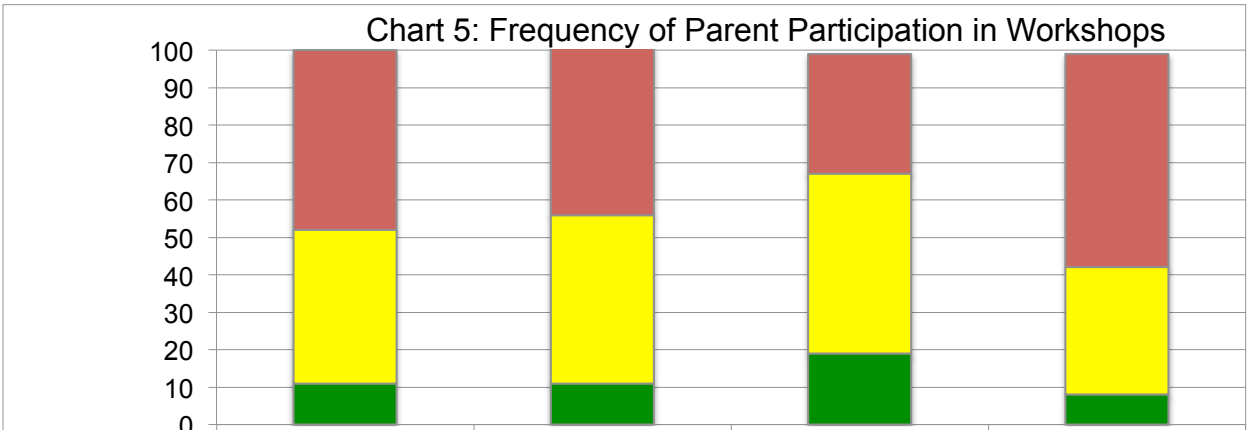
Parents were asked a variety of questions about how often they participate in school- and SEAL-related activities. Charts 4 - 5 provide the responses of the parents to these items. About half of parents participated at least sometimes and most participated at least sometimes in the parent-teacher conferences. They were less likely to participate in helping with volunteering in the class or with other school-related activities, though a half of parents did so at least sometimes.

Close to half of the parents participated in the SEAL Introduction and the reading and family story workshops, and in the Kindergarten orientation. When parents did not participate, the major reason was schedule conflict or difficulties with childcare or transportation.

Parents were more likely to participate in the parent-teacher conference if they had higher biliteracy and bilingual skills (had the ability to read and write in both languages and to speak both languages).



	Parent-Teacher Conf	Volunteer Class	Help project outside class	Parent leadership	School activities
Rarely	6	22	50	66	43
Sometimes	51	46	43	26	46
Often	44	22	8	7	11



	Reading workshops	Family stories workshops	Kinder orient	SEAL Intro
Rarely	48	45	32	57
Sometimes	41	45	48	34
Often	11	11	19	8

This research joins other research (Chrispeels & Gonz, 2004; Chrispeels & Rivera, 2001) showing that providing Hispanic parents with knowledge about school and how to participate in the education of their children can influence their children's development. Chrispeels and her colleagues note that knowledge gained in parenting programs is the strongest predictor of Latino parent involvement with their elementary-aged children.

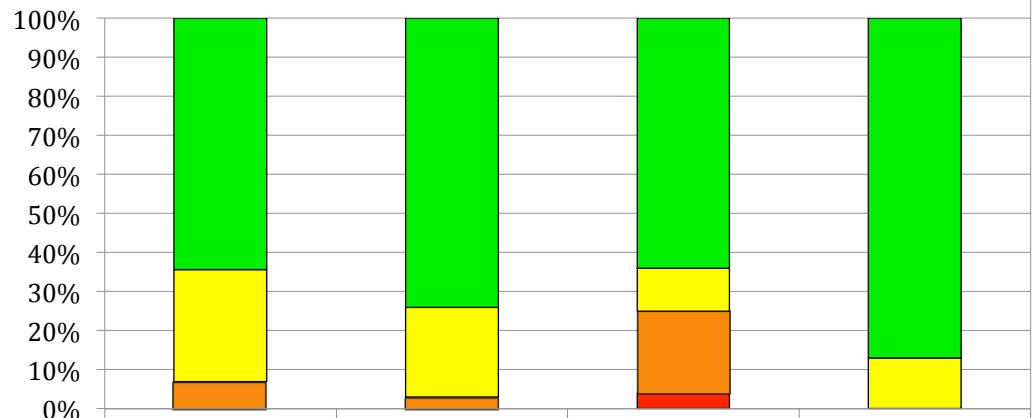
Quality of the SEAL Program

Depth of Implementation of SEAL Components

The Depth of Implementation instrument was developed to assess classroom quality in six areas: 1) Academic language and literacy in L1 and L2 for bilingual or SEI classes; 2) Oral language development and high level vocabulary; 3) Text rich curriculum and environment; 4) Development of language through thematic, enriched curriculum; 5) Affirming learning environment; and 6) Teacher and parents working together. Each area is rated using a rubric on a scale of 1 (No evidence) to 4 (Good), and there is an overall rating of 1 (No evidence of SEAL) to 4 (Good - full implementation). A trained SEAL staff observed teachers once toward the end of the school year. A total of 45 teachers were rated with respect to their depth of implementation of SEAL components.

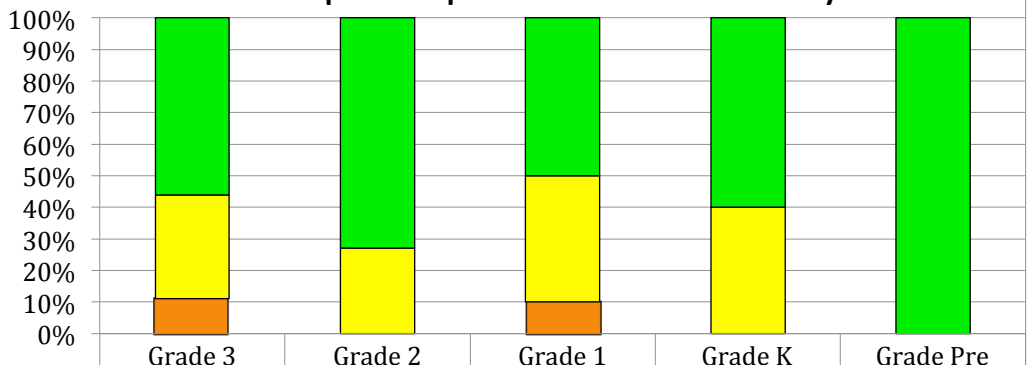
Chart 6 presents the overall depth of implementation rating for years 2-5. As this chart indicates, there was a fairly high level of implementation across the years, with few teachers rated as Minimal or No Evidence, and 64-87% of teachers rated as Good. Further, teachers were rated fairly high across each of the grade levels, as seen in Chart 7.

Chart 6: Overall Depth of Implementation in Years 2-5



	Year 5	Year 4	Year 3	Year 2
Good	65	74	64	87
Partial	29	23	11	13
Minimal	7	3	21	0
No Evidence of SEAL	0	0	4	0

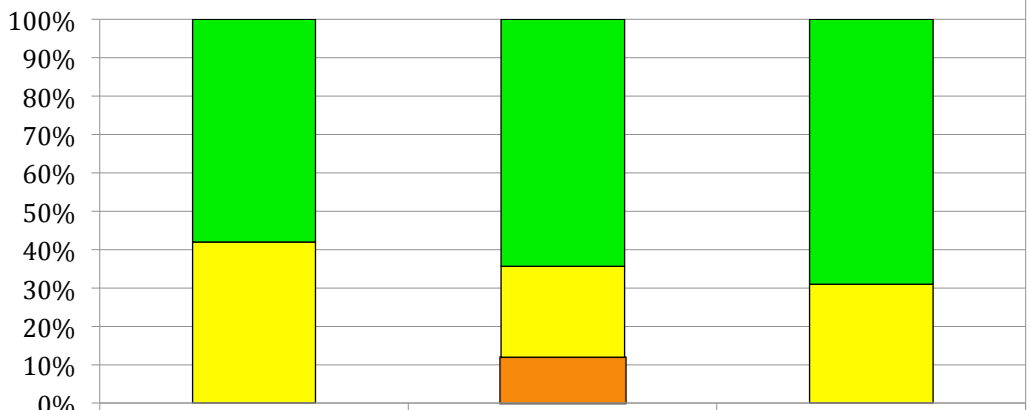
Chart 7: Depth of Implementation in Years 4-5: By Grade Level



	Grade 3	Grade 2	Grade 1	Grade K	Grade Pre
Good	56	73	50	60	100
Partial	33	27	40	40	0
Minimal	11	0	10	0	0
No Evidence of SEAL	0	0	0	0	0

Chart 8 presents the depth of implementation for years 4-5 by school site. As this chart shows, while School A had a slightly lower level of implementation than the other two schools, they did not have any teachers in the lowest two levels. School B had more teachers who were rated as good but more teachers rated as minimal as well. However, these differences were not statistically significant.

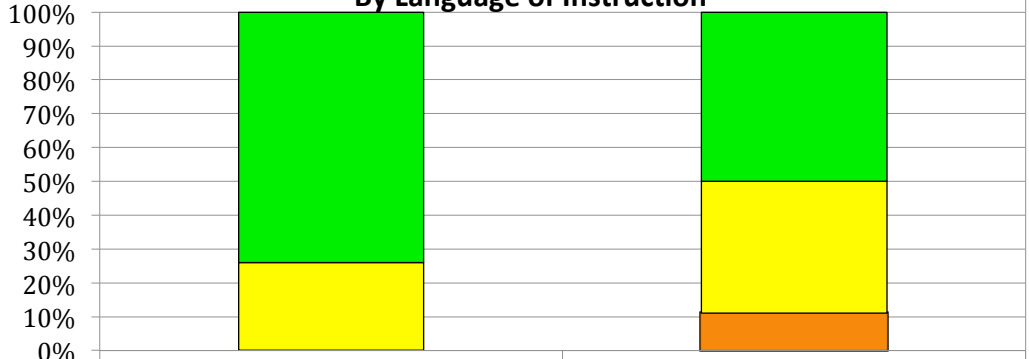
Chart 8: Depth of Implementation in Years 4-5: By School



	School A	School B	School C
Good	58	65	69
Partial	42	24	31
Minimal	0	12	0
No Evidence of SEAL	0	0	0

Chart 9 shows the depth of implementation according to language of instruction: bilingual or English. According to this chart, teachers had a higher depth of implementation in the bilingual program than in the English program, though this difference was not statistically significant.

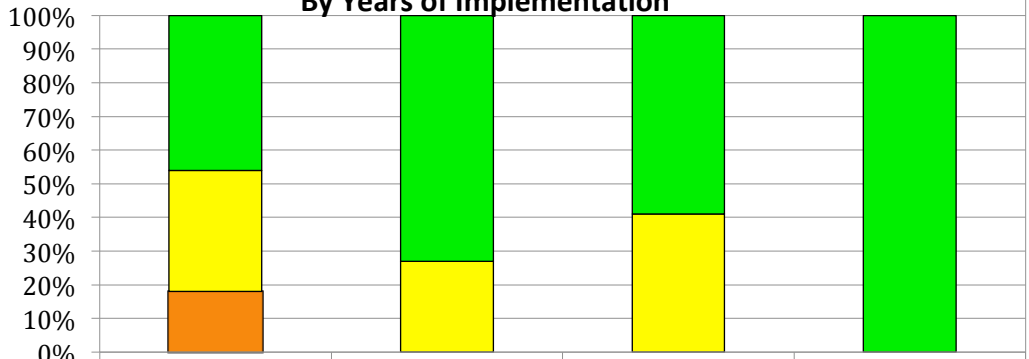
Chart 9: Depth of Implementation in Years 4-5: By Language of Instruction



	Bilingual	English
Good	74	50
Partial	26	39
Minimal	0	11
No Evidence of SEAL	0	0

In Chart 10, there is a depiction of the depth of implementation with respect to the teachers' years of implementation of SEAL. As the chart indicates, teachers generally had a higher depth of implementation with more years of experience in the program; however, this difference was not statistically significant. This chart also suggests that two years of experience enable teachers to implement the SEAL program at a fairly high level.

Chart 10: Depth of Implementation in Years 4-5: By Years of Implementation



	1 year	2 years	3 years	4 years
Good	46	73	59	100
Partial	36	27	41	0
Minimal	18	0	0	0
No Evidence of SEAL	0	0	0	0

Three major points can be made from the findings on depth of implementation:

- **There was a high level of implementation in SEAL, with over two-thirds of teachers rated as High implementation**;
- There was no difference in level of implementation across the school sites;
- Though teachers were more likely to be rated as High implementation in classes with bilingual as compared to English instruction, this difference was not statistically significant.
- Teachers with more years of experience in SEAL showed greater depth of implementation; however, most teachers showed a fairly high level of implementation after two years of experience in SEAL.

Part III

Evaluation Findings

Evaluation Findings

This section examines the overall outcomes of the SEAL students after five full years of SEAL implementation. The focus of this report is on the Spanish speakers who participated in the SEAL preschool program in academic years 2009/10 - 2013/14 and entered the SEAL kindergarten, first-, second-, or third-grade programs in the subsequent years. Outcome data will focus on language, literacy, mathematics/cognitive, and social outcomes since the focus of SEAL was on these components.

The major question is: What do we know about the language, literacy, mathematics/ cognitive, and social development in grades PreK to 3 of the students after five years of SEAL implementation? Five specific questions were addressed:

1. **What is the overall level of performance and growth?**

2. **Is there a difference between Full vs. Partial SEAL students? How do the SEAL Cohort students compare to other students who are demographically similar to them?**

3. **Are there similarities and differences in the level of performance and growth among SEAL participants in terms of:**
    a. **School sites**
    b. **Cohorts**
    c. **Language of instruction (bilingual vs. English/SEI)**
    d. **Student language proficiency**

4. **Are there differences in outcomes between SEAL students whose teachers have higher vs. lower levels of implementation of SEAL components by grades 2-3?**

5. **What impact does parent engagement have on student outcomes?**

1. What is the overall level of performance and growth for SEAL students?

LANGUAGE and LITERACY SKILLS

Students' language skills were measured with five different assessments: 1) Desired Results Developmental Profile (DRDP-PS), which provides information about preschool children's development in the area of language skills in English or Spanish; 2) Pre-LAS and LAS, which provides information about students' language skills in Spanish and English at the preschool and elementary levels; 3) California English Language Development Test (CELDT), which is the state measure used to assess students' proficiency in English in kindergarten through grade 12, or until they reach proficiency in English; and 4) California Standards Test (CST) and its Spanish equivalent, Standards Test in Spanish (STS), which is used to assess students' skills in language arts and math in grades 2 and higher; and 5) Children's Progress Academic Assessment (CPAA), which measures early literacy development. The results of each of these assessments will be examined below.

Desired Results Developmental Profile

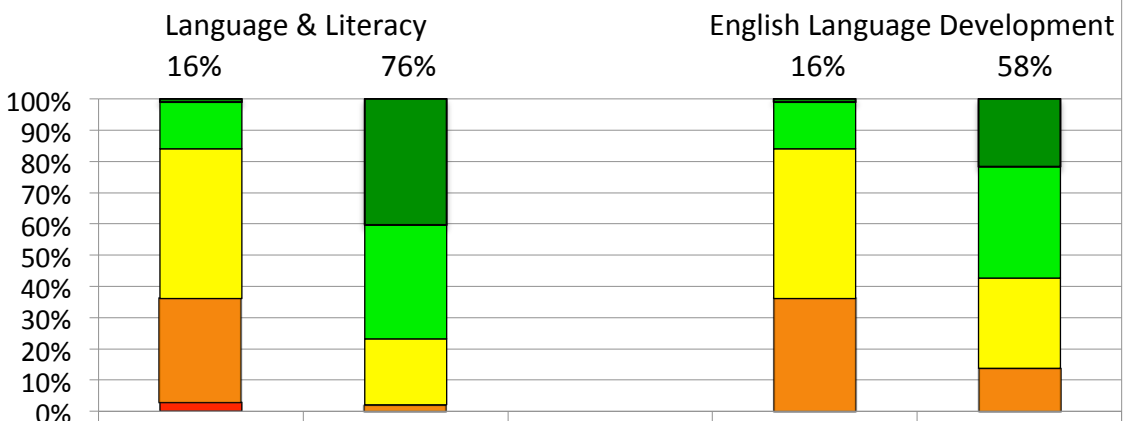
The Desired Results Developmental Profile (DRDP) assessment instrument was described in more detail in the Testing Instruments section. As mentioned, the version of the instrument changed from Cohort 1 to Cohort 2; thus, analyses are conducted with the items that correspond across the two versions. Students were rated in their *language and literacy* ability on the DRDP-PS in 10 areas: comprehends meaning, follows increasingly complex instructions, expresses self through language, uses language in conversation, interest in literacy, comprehension of age-appropriate text presented by adults, concepts about print, phonological awareness, letters and word knowledge, and emergent writing. The *English language development* subtest on the DRDP-PS included four items that assess: comprehension of English; self-expression in English; understanding and response to English literacy activities; and symbol, letter and print knowledge in English. A rubric was used to assign students to one of five categories: 0 (Not Yet), 1 (Exploring), 2 (Developing), 3 (Building), and 4 (Integrating). As mentioned above, research on the DRDP-R (but not DRDP-PS) demonstrates that most children reach the third developmental level (Building) by the end of preschool (Child Care Results, 2010).

The focus of the presentation of data on the DRDP was to examine overall performance across all SEAL cohorts. Table 4 provides the percentage of SEAL students who scored at the top two levels of the DRDP by the spring assessment; that is, the percent of students who attained grade-level performance for Kinder entry for items in the two subscales of Language and Literacy and English Language Development. The great majority of SEAL students (two-thirds to three quarters) are at grade-level expectation by the end of SEAL preschool in Spanish

language and literacy, while about half of students show kinder-entry expectations in English language development.

Chart 12 also illustrates the gain from the fall to the spring for the language and literacy and English language development areas. This chart indicates that students scored very low in the fall, with only 16% of students at the top two levels in language and literacy and English language development; in addition, a third of students scored at the lowest two levels in each of these measures. By spring, however, there was tremendous growth in both language and literacy and English language development.

Chart 12: Language & Literacy Performance in Fall and Spring



	Fall	Spring	.	Fall	Spring
Integrating	1	40		1	22
Building	15	36		15	36
Developing	48	21		48	29
Exploring	33	2		36	14
Not Yet	3	0		0	0

Table 4 presents the gains for each category and each item. As this table clearly demonstrates, students made highly statistically significant growth from the fall to the spring on each item for both Spanish language and literacy and English language development.

Table 4
DRDP-PS – Language and Literacy Development
Percent at Highest 2 Levels: Building-Integrating
DRDP-PS – Language and Literacy Growth for Spanish Speakers

	Average Score Fall	Average Score Spring	Gain	Percent at Highest 2 Levels: Building-Integrating
LANGUAGE & LITERACY				
Overall	1.7	3.1	1.3***	76%
Comprehends meaning	2.1	3.1	1.0***	76%
Follows increasingly complex instructions	2.0	3.3	1.3***	85%
Expresses self through language	2.0	3.2	1.2***	73%
Uses language in conversation	2.0	3.0	1.0***	74%
Interest in literacy	1.9	3.2	1.3***	79%
Comprehends age-appropriate text	1.8	3.1	1.3***	69%
Concepts of print	1.4	2.8	1.4***	69%
Phonological awareness	1.2	2.9	1.7***	67%
Letter and word knowledge	1.5	3.0	1.5***	71%
Emergent writing	1.8	3.3	1.5***	83%
ENGLISH LANGUAGE DEVELOPMENT				
Overall	1.5	2.6	1.1***	58%
Comprehension of English	1.6	2.6	1.0***	55%
Self-expression in English	1.6	2.6	1.0***	54%
Understanding and response to English literacy activities	1.5	2.7	1.2***	55%
Symbol, letter, and print knowledge in English	1.2	2.6	1.4***	58%

*** highly statistically significant growth, $p < .001$

2. Language Assessment Scales (Pre-LAS and LAS)

Children were administered the Language Assessment Scales: 1) at their entry to each grade level – preschool, kindergarten, first grade, second grade, and third grade; and 2) in year 5, also at the end of second and third grades. Most students were given the test in Spanish to assess their primary language skills, though they were also administered the PreLAS in English at the entrance to preschool. The Pre-LAS has four different subscales (Listening-Simon Says; Vocabulary- Human Body and Art Sample; Sentence Repetition; Story Retelling - Story #1, Story #2,) while the LAS (administered at second and third grades) has three subscales (Vocabulary, Listening, Story Retelling). Each subscale has points that contribute to a final score, from which a level of proficiency is assigned. While there are five levels, the classification of proficiency ranged from Not Fluent (Level 1) to Limited (Levels 2-3) and Fluent (Levels 4-5).

Table 5 provides the proficiency levels of the students in preschool through third grade for the children's native language of Spanish. Comparing the *entering* preschool, first, second, and third grade students, the rows of Table 5 indicate that at each succeeding grade level, there are fewer children in the Not Fluent category and more children in the Fluent category. By first grade, half of the children were fluent (54%), but they have also moved up in levels and out of the Not Fluent level. At grades 2-3, students were given the regular LAS (instead of PreLAS) version, which is more difficult. By the end of the second and third grades, about half of the students were Fluent (47-52%).

Table 5
Spanish Pre-LAS Classification for Spanish Speakers*

	Level 1 Not Fluent	Level 2 Limited	Level 3 Limited	**Total % Levels 4-5 Fluent**	**Average Score**
Preschool *Entry* (n=263)	32%	17%	24%	**27%**	**63.5**
Kindergarten *Entry* (n=461)	24%	15%	30%	**31%**	**71.3**
First Grade *Entry* (n = 535)	10%	9%	28%	**54%**	**79.5**
Different version of the test for Grades 2-3					
Second Grade *Entry** (n = 339)	18%	25%	32%	**26%**	**65.3**
Second grade *Exit* (n = 183)	14%	13%	26%	**47%**	**70.8**
Second grade Exit/Third Grade Entry (n = 346)	15%	15%	23%	**48%**	**71.0**
Third Grade *Entry** (n = 163)	15%	16%	21%	**48%**	**72.2**
Third Grade *Exit** (n = 151)	9%	11%	28%	**52%**	**75.1**

The next table (Table 6) presents the gains made by the children from the beginning of preschool to the beginning of first grade in Spanish. This table shows that the students' scores increased by 18 points, which was a highly statistically significant gain.

Table 6
Spanish Pre-LAS Mean Scores (Standard Deviation)
Cohorts 1 – 3 (n=232)

	Preschool Entry	Kindergarten Entry	First Grade Entry	Gain
	64.0 (20.6)	75.1 (14.6)	81.7 (11.6)	17.7***

** p < .01, *** p < .001

Table 7 shows the scores at preschool and then first-grade entry for the SEAL students across the different subscales of the Pre-LAS in Spanish. Again, we see that students had fairly or very weak scores in all subscales at preschool entry even though they were assessed in their native language. Their scores were particularly weak in Story Retelling, where they averaged 19.2 out of 40 points. Students made highly significant gains across preschool and kindergarten and into first grade in all subscales and the total score. In addition, students made statistically significant gains from second to third grade in vocabulary and story retelling, but not listening.

Table 7
Spanish Pre-LAS Mean Scores (Standard Deviations)

Subscale (Total Points Possible)	Preschool Entry	First Grade Entry	Gain Pre to 1st
Listening (20)	17.1 (4.1)	19.5 (1.2)	2.4***
Vocabulary (20)	14.9 (4.5)	17.3 (2.7)	2.4***
Sentence Repetition (20)	15.6 (5.2)	19.2 (1.9)	3.6***
Story Retelling (40)	19.2 (8.8)	27.4 (6.4)	8.2***
Total (100)	64.0 (20.6)	81.7 (11.6)	17.7***

Subscale (Total Points Possible)	Second Grade Entry Mean (SD)	Third Grade Entry Mean (SD)	Gain 2nd to 3rd
Vocabulary (24)	15.9 (5.6)	17.2 (5.0	1.3***
Listening (26)	19.5 (4.0)	20.0 (0.5)	ns
Story Retelling (50)	33.9 (7.9)	37.5 (9.3)	3.6***
Total (100)	68.1 (16.2)	73.8 (16.0)	5.7***

*** p < .001

In Table 8 we can see the Pre-LAS scores in English for the children at entry into preschool. In looking at the column designated Total % Levels 4-5 Fluent, we see the percent of students that were rated as Fluent in English, which is a low 2%. Furthermore, most students (88%) were at the lowest level, or Not Fluent. This is not surprising for a sample of low-income Spanish-speaking children at entry to preschool.

Table 8
English Pre-LAS Classification for Spanish Speakers

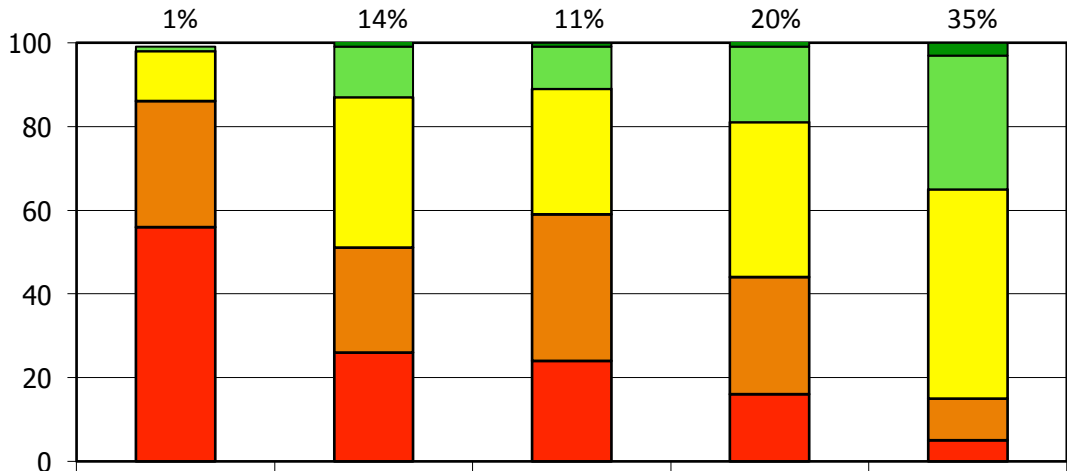
	Level 1 Not Fluent	Level 2 Limited	Level 3 Limited	**Total % Levels 4-5 Fluent**	**Average Score**
Preschool *Entry* (n=236)	88%	6%	4%	**2%**	**30.5**

3. California English Language Development Test (CELDT)

The California English Language Development Test (CELDT) provides an assessment of EL students' proficiencies in English in listening and speaking (oral language), reading and writing (literacy), and a total score. As indicated previously, the CELDT provides both a scale score and a classification of students into one of five proficiency levels: Beginning, Early Intermediate, Intermediate, Early Advanced, and Advanced. AY 2010/2011 was the first year in which kindergartners were assessed in reading and writing in the State of California; thus, the total score for the kindergarten students is not as comparable to kindergarten students from previous years for whom the total only represents oral language. It is important to remember that these scores represent students' proficiency at entry to the grade level. Also, when students reach proficiency, they are no longer given the CELDT and are exited from the group; thus, scores do not reflect the successful students who have already attained proficiency in English.

Chart 13 presents the classification levels of the students on the CELDT by grade level; these are cross-sectional scores and thus reflect the score of any child at that particular grade. As the chart indicates, the majority of ELs at entry into kindergarten scored as Beginning (56%) or Early Intermediate (30%). With each grade level, students moved up proficiency levels. By fourth grade entry, only 5% were Beginners and 10% Early Intermediate, while 50% were Intermediate and 35% were Early Advanced or Advanced.

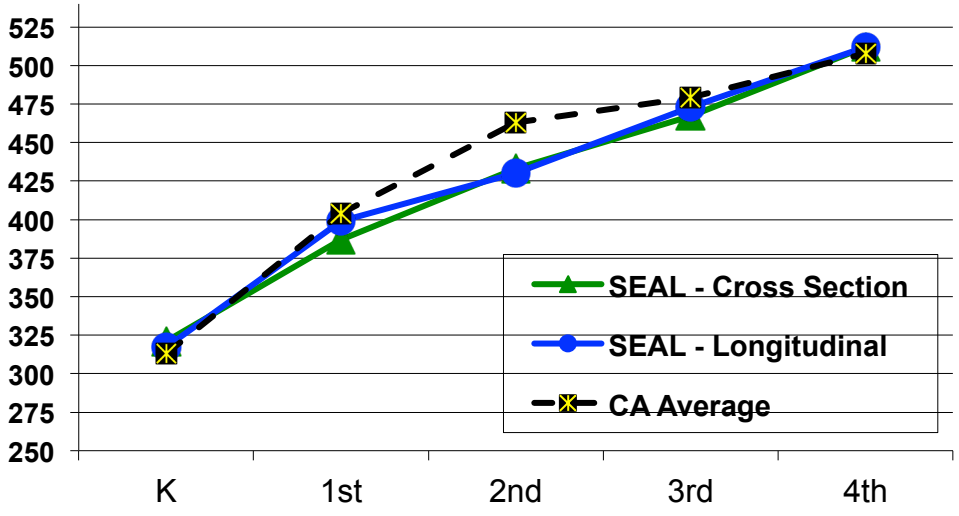
Chart 13: Levels of English Language Proficiency (CELDT)



	Enter K	Enter 1st	Enter 2nd	Enter 3rd	Enter 4th
Adv	0	2	1	2	3
Early Adv	1	12	10	18	32
Intermediate	12	36	30	37	50
Early Int	30	25	35	28	10
Beg	56	26	24	16	5

In Chart 14, we can see the progress of students' English language proficiency as they move across the grade levels. Scores are provided for both cross-sectional and longitudinal findings, which are nearly identical. As this chart indicates, students made good growth across the grade levels.

Chart 14: CELDT Overall Scale Scores Over Time



Growth can also be examined by looking at how much students move from one proficiency level to another. Table 9 shows the CELDT levels at entry to first grade, second grade, third grade, and then fourth according to their CELDT level at kindergarten entry. At kinder entry students were largely at one of three levels: Beginning, Early Intermediate, or Intermediate, which represent the lowest three levels (levels 1-3).

At first grade entry, the students have scores at levels 1-5. As the table indicates, of SEAL students who started at Beginning when they entered kindergarten, a third (38%) were still at beginning, while a third (32%) had moved up one level to Early Intermediate and another third (30%) had moved up two or three levels to Intermediate or Early Advanced. Among students who entered kindergarten as Early Intermediate, 5% came down a level to Beginner, 21% stayed at the same level of Early Intermediate, half (55%) moved up one level to Intermediate and 19% moved up two levels to Early Advanced. Lastly, of the students who entered kindergarten at the Intermediate level, half (53%) stayed at that level and half (46%) moved up one or two levels to Early Advanced or Advanced.

Among second- through fourth-grade entry students, we see a similar pattern of results as with first grade entry; most students moving up one or more levels and few moving back a level. Notice that these tables also give credit for the students who entered as EL but were reclassified as Fluent English Proficient (RFEP), which varies from 18% at second grade to 25% at third and 43% at fourth grade. However, there are far more students at each grade level who are RFEP or at least Proficient (Early Advanced, Advanced or RFEP) if they entered as Early Intermediate or Intermediate. Among entering fourth graders, two-thirds of those who entered kindergarten as Early Intermediate were Proficient and three quarters of those who entered kindergarten as Intermediate were Proficient in English.

Table 9
English CELDT Classification for Spanish Speaking SEAL Students

Level Change from Kindergarten Entry to First Grade Entry (n=445)

	At First Grade Entry			
At Kinder Entry	Beginning	Early Intermediate	Intermediate	Early Advanced or Advanced
Beginning	38%	32%	27%	3%
Early Intermediate	5%	21%	55%	19%
Intermediate	0%	2%	53%	46%

Level Change from Kindergarten Entry to Second Grade Entry

	At Second Grade Entry					
At Kinder Entry	Beginning	Early Intermediate	Intermediate	Early Advanced or Advanced	RFEP	**Proficient**
Beginning (n=236)	**22%**	**32%**	**36%**	**3%**	**9%**	**11%**
Early Intermediate (n=126)	**10%**	**16%**	**37%**	**11%**	**27%**	**38%**
Intermediate (n=46)	**7%**	**17%**	**22%**	**15%**	**39%**	**54%**
Any starting level (n=412)	**17%**	**25%**	**34%**	**7%**	**18%**	**25%**

Level Change from Kindergarten Entry to Third Grade Entry

	At Third Grade Entry					
At Kinder Entry	Beginning	Early Intermediate	Intermediate	Early Advanced or Advanced	RFEP	**Proficient**
Beginning (n=153)	**16%**	**28%**	**42%**	**3%**	**12%**	**15%**
Early Intermediate (n=82)	**9%**	**12%**	**34%**	**6%**	**39%**	**45%**
Intermediate (n=34)	**9%**	**18%**	**21%**	**3%**	**50%**	**53%**
Any starting level (n=270)	**13%**	**22%**	**37%**	**4%**	**25%**	**29%**

Level Change from Kindergarten Entry to Fourth Grade Entry

	At Fourth Grade Entry					
At Kinder Entry	Beginning	Early Intermediate	Intermediate	Early Advanced or Advanced	RFEP	**Proficient**
Beginning (n=55)	**7%**	**9%**	**53%**	**4%**	**27%**	**31%**
Early Intermediate (n=33)	**0%**	**0%**	**33%**	**9%**	**58%**	**67%**
Intermediate (n=13)	**0%**	**8%**	**15%**	**8%**	**69%**	**77%**
Any starting level (n=102)	**4%**	**6%**	**41%**	**6%**	**43%**	**49%**

In just looking at the student progress from third to fourth grade, we can see that a quarter (27%) of the students, representing 6 students, who were at the Beginning level at third grade stayed there and the remainder moved up one or two levels. Of students at Early Intermediate levels in third grade, two thirds moved to Intermediate and another 18% to Proficient. Half of those who were Intermediate in third grade were still Intermediate in fourth grade, though most of the other half were Proficient. Finally, among students who were at early Advanced or Advanced levels in third grade, almost all became RFEP and Proficient (93%).

Table 10
English CELDT Classification for Spanish Speaking SEAL Students
Level Change from Third Grade Entry to Fourth Grade Entry

	At Fourth Grade Entry					
At Third Entry	Beginning	Early Intermediate	Intermediate	Early Advanced or Advanced	RFEP	**Proficient**
Beginning (n=22)	**27%**	**36%**	**36%**	**0%**	**0%**	**0%**
Early Intermediate (n=34)	**0%**	**15%**	**68%**	**3%**	**15%**	**18%**
Intermediate (n=61)	**0%**	**0%**	**54%**	**12%**	**34%**	**46%**
Early Adv/Adv (n=39)	**0%**	**0%**	**8%**	**3%**	**90%**	**93%**
Any starting level (n=156)	**4%**	**8%**	**43%**	**6%**	**39%**	**45%**

In Table 11 we see the percentage of students that moved down 1 level, stayed at the same level, moved up one level, or moved up two or more levels. As this table demonstrates, only 2-6% of students moved down 1 level and 7-35% of students stayed at the same level. In contrast, 60-91% of students moved up *at least* one level; 19-70% of students moved up two levels. In addition, if we look at level change for students who are at the lowest three levels (Beginner to Intermediate) and have more growth to make, we see that there was less movement up from first to second grade, but excellent growth from kinder to first and from second to third and third to fourth grades, with 47-64% of students already proficient (Early Advanced or Advanced) or having moved up at least one level.

Table 11

Level Change from Kindergarten Entry to First/Second/Third/Fourth Grade Entry

Grade	Moved down 1 level	Stayed at Same Level	Moved up 1 level	Moved up 2 levels
K to 1st	**2%**	**35%**	**39%**	**24%**
K to 2nd	**5%**	**34%**	**41%**	**19%**
K to 3rd	**6%**	**21%**	**35%**	**38%**
K to 4th	**1%**	**7%**	**21%**	**70%**

Level Change

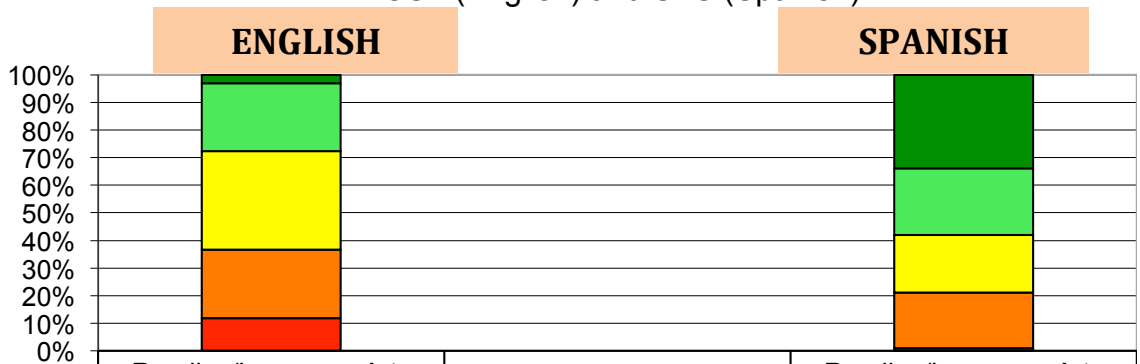
Grade	Moved down 1 level within **Beg-Int** (or moved down from Early Adv)	Stayed at Same Level within **Beg-Int**	Moved up 1 level within or above **Beg-Int**	Moved up 2 levels from **Beg-Int**	**Early Adv/ Advanced**	**Early Adv/ Advanced *or* Moved 1+ Levels**
K to 1st	**2%**	**35%**	**35%**	**15%**	**13%**	**63%**
1st to 2nd	**32%**	**41%**	**14%**	**1%**	**11%**	**26%**
2nd to 3rd	**11%**	**42%**	**24%**	**4%**	**19%**	**47%**
3rd to 4th	**2%**	**33%**	**23%**	**6%**	**35%**	**64%**

4. California Standards Test (CST) and Standards Test in Spanish (STS)

The California Standards Test (CST) provides an assessment of California students' skill development in English reading/language arts. As a translation into Spanish of the CST, the Standards Test in Spanish (STS) also provides a similar assessment of the level of students' skills in Spanish reading/language arts. The CST and STS provide both a scale score and a classification of students into one of five performance levels: Far Below Basic, Below Basic, Basic, Proficient, and Advanced. AY 2012/2013 was the first year in which Cohort 1 students – as second graders – were assessed in reading/language arts using these standardized tests. Unfortunately, second and third grades in Year 5 (AY 2013/14) were not assessed due to a change in the state's assessment requirements.

Chart 15 presents the performance levels of Cohort 1 students on the CST and STS. As the chart indicates, about a third of Cohort 1 students scored as Far Below Basic or Below Basic (37%), a third as Basic (36%), and slightly less than a third as Proficient or Advanced (28%). Performance was much higher when the students were assessed in their primary language; only 21% were Far Below Basic or Below Basic, 21% were Basic, and 58% were Proficient or Advanced. These scores in Spanish, which measure the same content as in English, show the high level of literacy skills that these students possess, though they are not yet able to demonstrate these skills in English.

Chart 15 - Percentage of Students at each level of Performance
CST (English) and STS (Spanish)



	Reading/Language Arts	.	Reading/Language Arts
Advanced	3		34
Proficient	25		24
Basic	36		21
Below Basic	25		20
Far Below	12		1

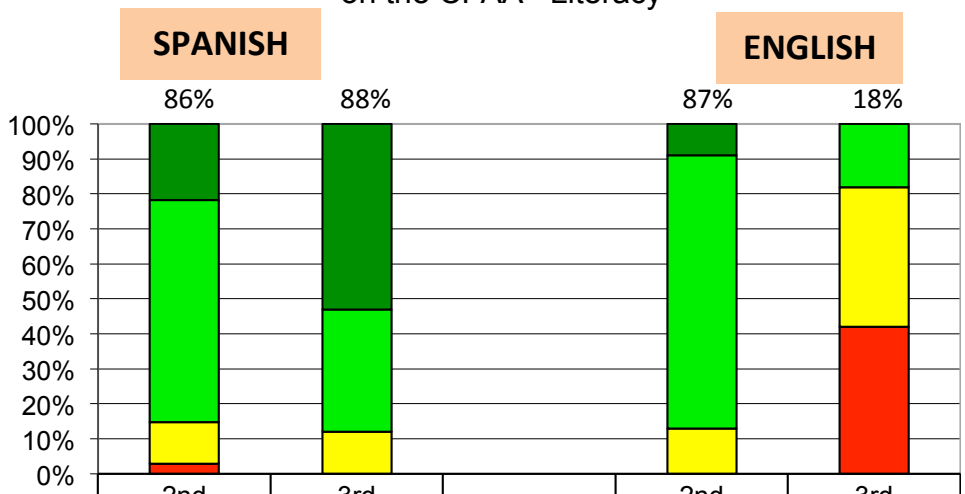
5. Children's Progress Academic Assessment (CPAA)

Another measure of academic readiness was the Children's Progress Academic Assessment (CPAA), which was designed to be developmentally appropriate in assessing early literacy. The CPAA examines four components of early literacy (listening, phonemic awareness, phonics and writing, and reading and reading mechanics). This assessment was completed in English and/or Spanish for second and third graders.

By the spring assessment in Spanish literacy for both second and third graders, the great majority of students were at or above grade level – At or Above Expectation (86-88%). Third graders scored especially high, with over half of students achieving above grade level expectations.

Among second graders, scores in English literacy were only slightly lower in terms of the percent of students rated At or Above Expectations (87%). In contrast, third graders scored much lower, with only 18% scoring At or Above Expectation. This is surprising given these students' exceptional literacy skills as measured in Spanish.

Chart 16 - Percentage of Students at each level of Performance on the CPAA - Literacy



	2nd	3rd	.	2nd	3rd
Above Expectation	22	53		9	0
At Expectation	64	35		78	18
Approaching Exp	12	12		13	40
Below Expectation	3	0		0	42

MATHEMATICS, COGNITIVE, AND SOCIAL SKILLS

The Desired Results Developmental Profile DRDP assessment instrument was explained in more detail in the Testing Instruments section. As mentioned, the version of the instrument changed from Cohort 1 to Cohort 2; thus, comparisons will be made in the items that correspond across the two versions. Students were rated in their *mathematics* ability on the DRDP in six areas: number sense of quantity and counting, number sense in math operations, math shapes, time, classification, measurement, and patterning. The Cognitive subtest includes five items: cause and effect, engaging in problem solving, memory and knowledge, curiosity and initiative, and engagement and persistence; these last two items are important components of motivation to achieve. A rubric was used to assign students to one of five categories: 0 (Not Yet), 1 (Exploring), 2 (Developing), 3 (Building), and 4 (Integrating). As mentioned above, research on the DRDP-R (but not DRDP-PS) demonstrates that most children reach the third developmental level (Building) by the end of preschool (Child Care Results, 2010).

Desired Results Developmental Profile

Table 12 provides the percentage of students who performed at the top two levels of the DRDP by the spring assessment; that is, the percent of students who attained grade-level performance for Kinder entry for items in mathematics and cognitive development. As we saw with language and literacy development, overall the great majority of the students were at grade-level expectation by the end of SEAL preschool in mathematics (82%) and cognitive (77%) development. Furthermore, students showed statistically significant progress from the fall to the spring in all items.

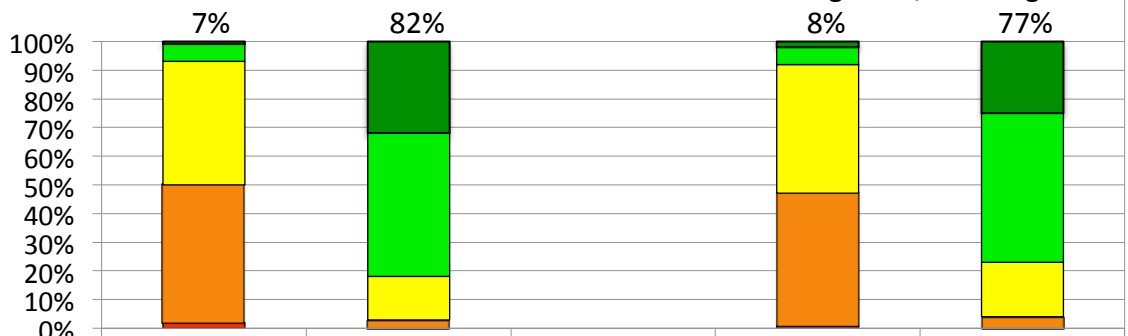
Table 12
DRDP-PS – Mathematics Development
Percent at Highest 2 Levels: Building-Integrating
DRDP-PS – Mathematics Growth for Spanish Speakers

	Average Score Fall	Average Score Spring	Gain	Percent at Highest 2 Levels: Building-Integrating
Mathematics				
Overall	1.7	3.1	1.4***	82%
Number Sense of quantity & counting	2.1	3.2	1.1***	78%
Number sense of math operations	1.2	2.8	1.6***	70%
Classification	1.6	3.0	1.4***	81%
Measurement	1.2	2.8	1.6***	62%
Shapes	1.7	3.1	1.4***	80%
Patterning	1.1	3.1	2.0***	80%

Cognitive & Learning				
Overall	1.6	2.9	1.3***	77%
Cause and effect	1.4	2.9	1.5***	67%
Problem solving	1.5	2.9	1.4***	69%
Memory and knowledge	1.7	3.0	1.3***	77%
Curiosity and initiative	1.7	3.1	1.4***	82%
Engagement and persistence	1.7	3.0	1.3***	76%

*** highly statistically significant growth, p < .001

Chart 17: Math & Cognitive Performance in Fall and Spring



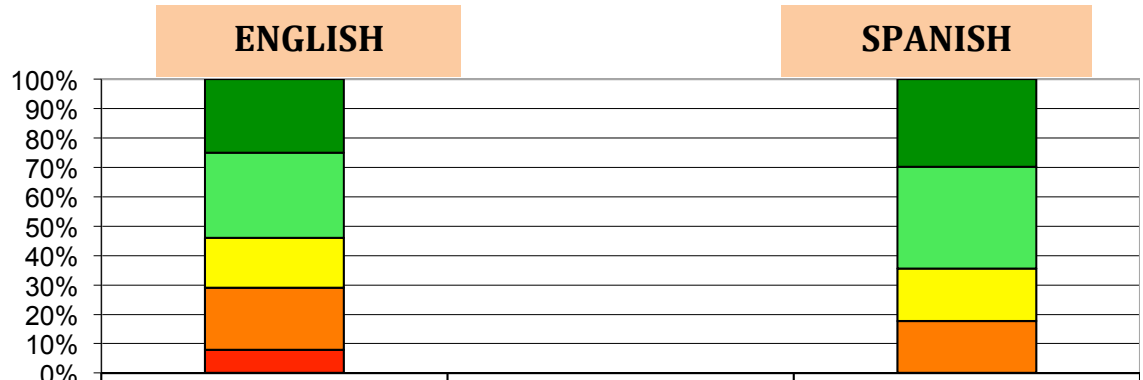
	Fall	Spring	.	Fall	Spring
Integrating	1	32		2	25
Building	6	50		6	52
Developing	43	15		45	19
Exploring	48	3		46	4
Not Yet	2	0		1	0

California Standards Test (CST) and Standards Test in Spanish (STS)

The California Standards Test (CST) provides an assessment of California students' skill development in mathematics, as measured in English. A Spanish translation, the Standards Test in Spanish (STS), provides a similar assessment of the level of students' skills in mathematics. As noted previously, the CST and STS provide both a scale score and a classification of students into one of five performance levels: Far Below Basic, Below Basic, Basic, Proficient, and Advanced. AY 2012/2013 was the first year in which SEAL students – as second graders – were assessed in mathematics using these standardized tests; it was also the last year in which SEAL students were assessed due to changes in the California assessment system.

Chart 18 presents the performance levels on the CST and STS for Cohort 1 students in second grade. As the chart shows, over a half (54%) of second-grade students scored as Proficient or Advanced, 17% as Basic, and 29% as Far Below Basic or Below Basic. Students scored higher on the STS, with 65% Proficient or Advanced, 18% Basic, and 18% Below Basic. These scores indicate that half to two-thirds of the SEAL students at the second grade level were performing at or above grade level. In fact, one quarter to one third of students scored above grade level, or Advanced.

Chart 18 - Percentage of Students at each level of Performance
CST (English) and STS (Spanish) -- Mathematics



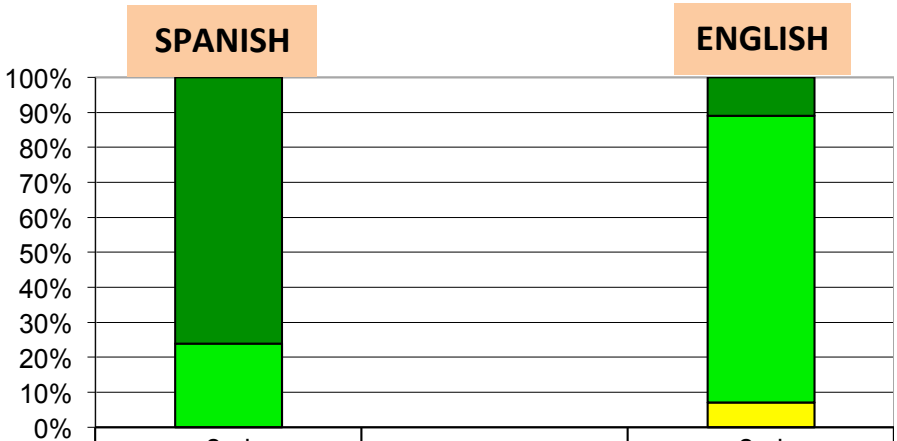
	Math	.	Math
Advanced	25		30
Proficient	29		35
Basic	17		18
Below Basic	21		18
Far Below	8		0

Children's Progress Academic Assessment (CPAA)

Another measure of academic readiness was the Children's Progress Academic Assessment (CPAA), which was designed to be developmentally appropriate in assessing early math. The CPAA examines four components of early math (measurement, numeracy, operations, and patterns and functions). This assessment was completed in English and Spanish.

Chart 19 shows that all of the students were at or above grade level (At or Above Expectation) when assessed in Spanish and 93% were at or above grade level when assessed in English. Scores in Spanish were higher in that more students were Above Expectation in Spanish than in English (76% vs. 11%).

Chart 19 - Percentage of Students at each level of Performance on the CPAA - Math - 2nd Graders



	2nd	.	2nd
Above Expectation	76		11
At Expectation	24		82
Approaching Exp	0		7
Below Expectation	0		0

Social Skills

One subtest on the DRDP-PS assesses social and interpersonal skills. The Social measure examines expressions of empathy, building cooperative relationships with adults, developing friendships, building cooperative play with other children, conflict negotiation, and awareness of diversity in self an others, identity of self and recognition of own skills and accomplishments, impulse control, taking turns, and shared use of space and materials.

Table 13 provides the Social item scores for the fall and the spring along with the gain scores, and the percent of students who scored at the top two levels of Building and Integrating. As this table and Chart 20 indicate, students began at (very) low levels in each of the items, but made significant growth of 1-2 levels. Over three quarters of children were at the top two levels in the Social items.

Chart 20: Percent of Students at each Level of DRDP-PS: Social Skills

	Fall	Spring
Integrating	1	35
Building	12	47
Developing	59	16
Exploring	28	2
Not Yet	0	0

Table 13
DRDP-PS – Social Growth for Spanish Speakers (n=210)

	Total Score Fall	Total Score Spring	Gain	Percent top 2 Levels – Building & Integrating
SELF AND SOCIAL DEVELOPMENT				
Overall	1.8	3.1	1.3***	82%
Identity of Self	1.9	3.3	1.4***	85%
Recognition of own skills and accomplishments	1.8	3.1	1.3***	77%
Expressions of empathy	1.6	2.9	1.3***	71%
Impulse control	1.8	3.1	1.3***	74%
Taking turns	1.8	3.1	1.3***	77%
Awareness of diversity in self and others	1.4	3.0	1.6***	74%
Building cooperative relationships with adults	1.8	3.2	1.4***	86%
Cooperative play with peers	2.0	3.2	1.2***	86%
Socio-dramatic play	2.0	3.3	1.3***	87%
Friendships with peers	1.8	3.2	1.4***	81%
Conflict negotiation	1.8	3.0	1.2***	71%
Shared use of space/materials	2.0	3.4	1.4***	82%

*** highly statistically significant growth, $p < .001$

2. How do the Full SEAL students compare to Partial SEAL students? How do SEAL students compare to other students who are demographically similar to them?

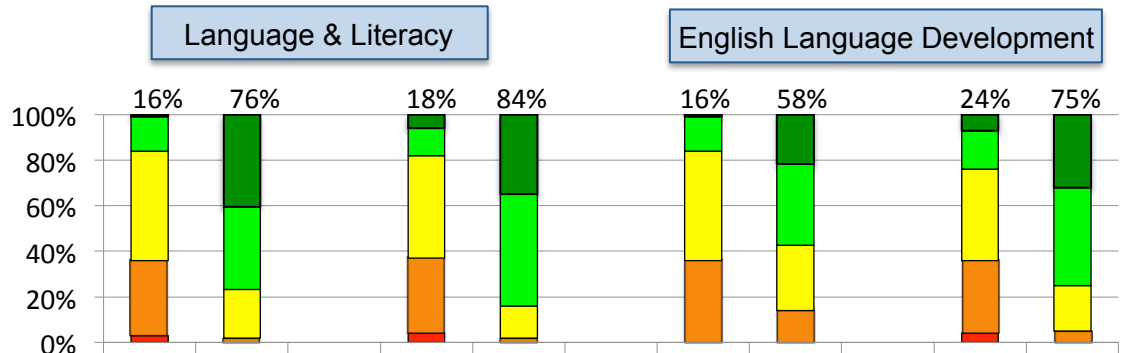
Students' language skills were measured with five different assessments: 1) Desired Results Developmental Profile (DRDP-PS), which provides information about preschool children's development in the area of language skills in English or Spanish; 2) Pre-LAS and LAS, which provides information about students' language skills in Spanish and English at the preschool and elementary levels; 3) California English Language Development Test (CELDT), which is the state measure used to assess students' proficiency in English in kindergarten through grade 12, or until they reach proficiency in English; and 4) California Standards Test (CST) and its Spanish equivalent, Standards Test in Spanish (STS), which is used to assess students' skills in language arts and math in grades 2 and higher; and 5) Children's Progress Academic Assessment (CPAA). The results of each of these assessments will be examined below.

1. Desired Results Developmental Profile

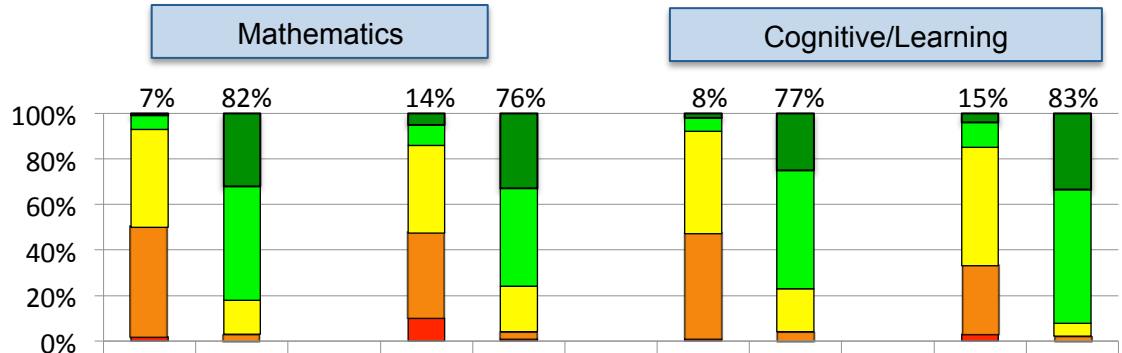
It was not possible to examine Full vs. Partial SEAL students on the DRDP since all preschool students were Full SEAL.

Chart 21 presents the percent of preschool children at each level of the DRDP-PS Language and Literacy, English Language Development, Mathematics, and Cognitive Development subtests for the SEAL students and the district averages. As this chart indicates, the children in each group (SEAL, District 2 averages) scored at moderately low levels in the Fall of their preschool year, and all groups showed gains in moving from lower to higher levels in all areas. In Language and Literacy, SEAL students were as likely to score at lower levels in the fall (36% for SEAL students vs. 37% for District 2 students in Language and Literacy); by Spring, SEAL students were less likely than their peers in the district to score at the highest level (76% vs. 84%). In English Language Development, SEAL and district students began at a similar level (36% for SEAL and District 2 students at the lowest 2 levels); SEAL students ended at a lower level (58% of SEAL vs. 75% of district students at top 2 levels). In Mathematics and Cognitive Development, by spring, there was little difference between the SEAL students and their district peers.

Chart 21: Language & Literacy
Comparing SEAL Students and District 2 Averages



	Fall	Spring	.	Dist Av Fall	Dist Av Spring	.	Fall	Spring	.	Dist Av Fall	Dist Av Spring
Integrating	1	40		6	35		1	22		7	32
Building	15	36		12	49		15	36		17	43
Developing	48	21		45	14		48	29		40	20
Exploring	33	2		33	2		36	14		32	5
Not Yet	3	0		4	0		0	0		4	0



	Fall	Spring	.	Dist Av Fall	Dist Av Spring	.	Fall	Spring	.	Dist Av Fall	Dist Av Spring
Integrating	1	32		5	33		2	25		4	30
Building	6	50		9	43		6	52		11	53
Developing	43	15		38	20		45	19		52	5
Exploring	48	3		37	3		46	4		30	2
Not Yet	2	0		10	1		1	0		3	0

2. Language Assessment Scales (Pre-LAS and LAS)

Table 14 presents the Spanish (Pre)LAS average scores for Full SEAL children compared to Partial SEAL children. It is important to remember that the Partial SEAL students had not attended PreK SEAL, but they had participated in the SEAL kindergarten, and some combination of kindergarten through third grade. As the table shows, Full SEAL students scored significantly higher than Partial SEAL students overall (Total) and in all subtests, except Listening – at all grade levels.

Table 14
Spanish (Pre)LAS Mean Scores (Standard Deviations)

Full SEAL vs. Partial (Non-PreK) SEAL – Kindergarten Entry

Subscale (Total Points Possible)	Full SEAL	Partial SEAL	Difference
Total (100)	74.9 (14.6)	66.5 (17.7)	Yes***
Listening (20)	18.7 (2.4)	17.9 (3.2)	Yes**
Vocabulary (20)	16.7 (3.0)	14.4 (4.5)	Yes***
Sentence Repetition (20)	17.8 (3.3)	16.6 (4.5)	Yes***
Story Retelling (40)	23.1 (7.5)	20.2 (7.4)	Yes***

Full SEAL vs. Partial (Non-PreK) SEAL – First Grade Entry

Subscale (Total Points Possible)	Full SEAL	Partial SEAL	Difference
Total (100)	81.6 (11.2)	77.3 (15.5)	Yes***
Listening (20)	19.4 (1.4)	19.4 (1.7)	no
Vocabulary (20)	17.3 (2.8)	15.6 (4.3)	Yes***
Sentence Repetition (20)	19.1 (2.0)	18.6 (2.9)	Yes**
Story Retelling (40)	26.7 (6.8)	25.4 (7.4)	Yes*

Full SEAL vs. Partial SEAL – Second Grade Entry

Subscale (Total Points Possible)	Full SEAL	Partial SEAL	Difference
Total (100)	68.4 (14.3)	61.9 (17.8)	Yes***
Vocabulary (24)	16.6 (4.4)	14.5 (9.0)	Yes**
Listening (26)	18.9 (4.3)	18.4 (3.8)	no
Story Retelling (50)	33.7 (7.6)	31.8 (8.5)	Yes*

Full SEAL vs. Partial SEAL – Third Grade (Second Grade Exit and Third Grade Entry)

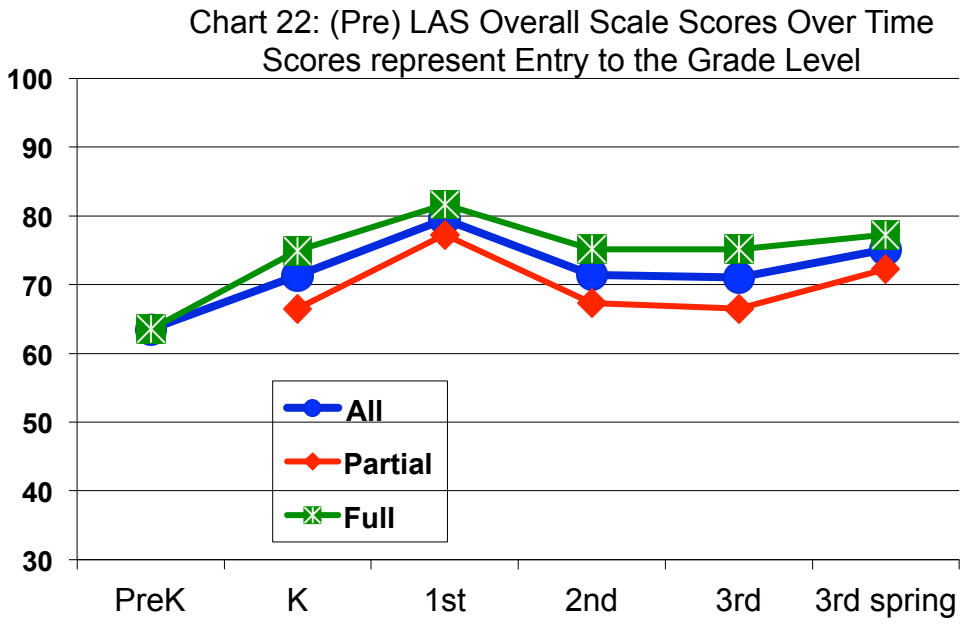
Subscale (Total Points Possible)	SEAL	Partial SEAL	Difference
Total (100)	75.1 (14.5)	66.5 (19.2)	Yes***
Vocabulary (24)	18.2 (4.6)	15.9 (6.5)	Yes***
Listening (26)	19.8 (3.6)	19.2 (4.8)	no
Story Retelling (50)	37.1 (9.5)	31.9 (10.2)	Yes***

Full SEAL vs. Partial SEAL – Third Grade Exit

Subscale (Total Points Possible)	SEAL	Partial SEAL	Difference
Total (100)	77.3 (16.1)	72.2 (14.8)	Yes*
Vocabulary (24)	19.8 (4.6)	18.5 (5.6)	no
Listening (26)	21.9 (3.2)	21.5 (3.5)	no
Story Retelling (50)	36.4 (9.8)	31.9 (8.8)	Yes**

* p < .05, ** p < .01, *** p<.001

Chart 22 shows the scores of students across all grades for the Partial and Full SEAL students. As this chart and the table clearly demonstrate, Full SEAL students scored higher at every grade level than Partial SEAL students.



3. California English Language Development Test (CELDT)

Table 15 presents the scale scores of the students at each grade level for each of the domains and overall total, disaggregated by whether students were Full SEAL or Partial SEAL students. As this table shows, Full SEAL students tended to score higher than Partial SEAL students, though not always statistically significantly so. In grade 3, Full SEAL students scored significantly higher in almost every domain. By fourth grade entry, Full SEAL students did not score statistically significantly higher than Partial SEAL students in any domain. However, the reason is that Full SEAL students were far more likely to be reclassified as Fluent English Proficient (49% vs. 30%), as shown in Table 16; this means that these high scoring RFEP students were not assessed on the CELDT and were thus removed from the Full SEAL group, reducing the overall scores of this group. This was also true for the Partial SEAL students, though there were far fewer of the Partial SEAL students that were reclassified as RFEP.

Table 15
English CELDT Scale Scores for Spanish-Speaking Full vs. Partial SEAL

GRADE	SEAL group	Listening	Speaking	Reading	Writing	Total
Kinder Entry	Full SEAL	327.2	308.7	274.8	**347.0*** **	317.3
	Partial SEAL	330.7	322.2	**282.3***	332.3	325.3
1st Entry	Full SEAL	395.9	**393.9***	**343.5*** **	**375.9*** **	393.1
	Partial SEAL	392.9	381.2	325.6	353.3	383.4
2nd Entry	Full SEAL	448.6	452.8	425.8	**431.0*** **	**437.9***
	Partial SEAL	446.2	445.3	413.6	406.9	427.3
3rd Entry	Full SEAL	**483.0** **	**484.7*** **	457.1	**479.0***	**475.9*** **
	Partial SEAL	456.9	465.1	444.2	465.6	457.8
4th Entry	Full SEAL	525.8	521.4	506.3	519.4	517.8
	Partial SEAL	509.6	516.8	488.3	514.7	507.0

Note. Differences not statistically significant unless noted. *p< .05, **p< .01, ***p< .001

Table 16
English Percent of Students at Different Levels of Proficiency by Full vs. Partial SEAL

GRADE	SEAL group	% Begin or Early Intermediate	% Intermediate	% Early Adv or Advanced	% RFEP	% **Proficient in English**
3rd Entry	**Full** SEAL (n=174)	36%	43%	11%	11%	**22%***
	Partial SEAL (n=174)	49%	31%	8%	13%	21%
4th Entry	**Full** SEAL (n=82)	7%	40%	4%	**49%**	**53%***
	Partial SEAL (n=77)	18%	44%	8%	30%	38%

Note. At both grade levels, the distributions of students across the English proficiency categories are significantly different, indicating that Full SEAL students are significantly more likely to have higher levels of Proficient in English compared to Partial SEAL students.

As Table 17 demonstrates, Full SEAL students also made greater growth from kinder entry to second, third, and fourth grade entry as well. Finally, Chart 23 provides an illustration of the longitudinal growth over time for the Full vs. Partial SEAL students from kindergarten through fourth grade entry. The chart shows that the Full students started with comparable or slightly lower scores, compared to Partial students, but by third and fourth grades, Full SEAL students scored much higher than Partial SEAL students.

Table 17
English CELDT Scale Scores
Change Scores from Kinder to Second Grade Entry

	Kinder Score	1st Grade Score	2nd Grade Score	**Gain K-2nd**
Full SEAL (n=255)	316.1 (73.6)	393.2 (64.3)	438.0 (48.7)	**121.9*** **
Partial SEAL (n=153)	319.8 (76.3)	388.2 (66.9)	428.0 (52.9)	**108.2*** **

Change Scores from Kinder to Third Grade Entry

	Kinder Score	1st Grade Score	2nd Grade Score	3rd Grade Score	**Gain K-3rd**
Full SEAL (n=179)	316.6 (72.0)	388.5 (66.7)	435.2 (49.5)	476.1 (49.1)	**159.5*** **
Partial SEAL (n=84)	321.8 (75.5)	382.1 (73.9)	426.6 (50.2)	454.8 (51.8)	**133.0*** **

Change Scores from Kinder to Fourth Grade Entry

	Kinder Score	1st Grade Score	2nd Grade Score	3rd Grade Score	4th Grade Score	**Gain K-3rd**
Full SEAL (n=65)	296.8 (72.9)	381.5 (61.9)	417.9 (47.9)	469.3 (43.5)	517.8 (40.6)	**221.0*** **
Partial SEAL (n=18)	331.8 (73.5)	383.4 (70.1)	416.9 (44.8)	450.9 (40.5)	498.9 (38.9)	**167.1*** **

***p< .001

Chart 23: CELDT -- Total Scale Scores Over Time

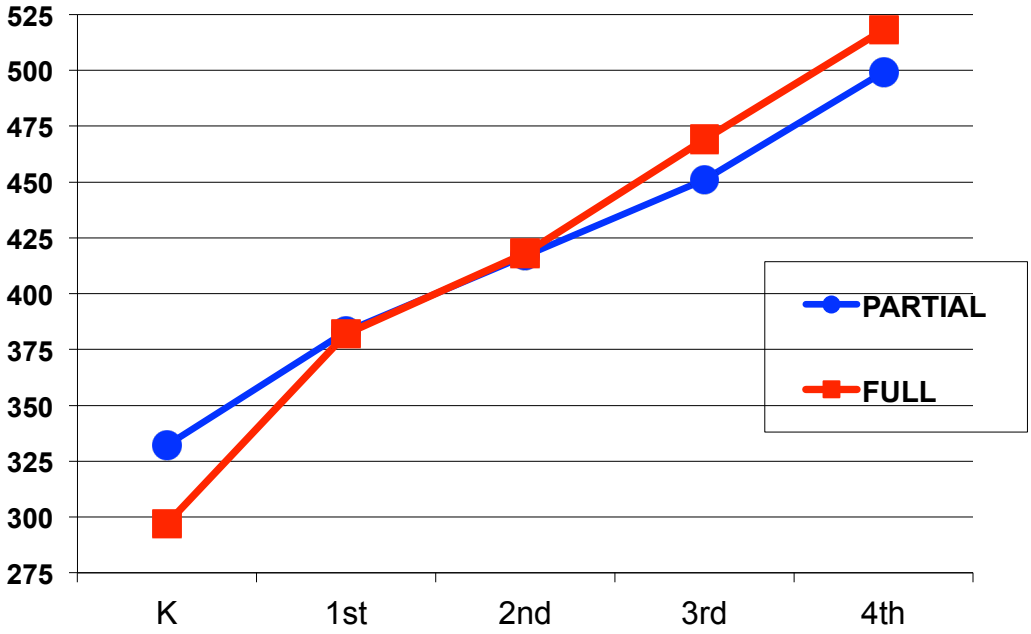


Chart 24 presents the English CELDT proficiency levels for Full and Partial SEAL students compared to their district and state peers, while Table 18 presents the average scale scores for each of the subscales and the Overall total. Comparison data are based on the District and the California State average for Spanish speakers for 2013-14 (the latest year for which scores are available). As Table 18 indicates, Full SEAL and Partial SEAL students scored slightly below their peers at first and second grade entry, fairly similar to their peers at third grade entry, and at or above their peers at fourth grade entry. It is not possible to determine the percentage of RFEP students at the district or state levels; thus, the comparisons at third and fourth grade may not be accurate.

As Chart 24 indicates, entering second graders who were Full or Partial SEAL students were more likely to be at Beginning/Early Intermediate and less likely to be at Early Advanced/Advanced levels compared to their peers in both districts and the state. Full SEAL third graders were more similar to their district peers but slightly below their state peers. However, by fourth grade entry, Full SEAL students were more likely to score Early Advanced/Advanced and less likely to score Beginning/Early Intermediate compared to their district and state peers. We see these conclusions reflected in the scale scores in Table 18 as well.

Table 18
English CELDT Scale Scores for Spanish-Speaking Students

First Grade Entry	Listening	Speaking	Reading	Writing	Total
Full SEAL	395.9	**393.9***	**343.5*****	**375.9*****	393.1
Partial SEAL	392.9	381.2	325.6	353.3	383.4
District 1 average	409.4	414.6	350.1	388.6	390.7
District 2 average	408.0	403.0	354.3	389.6	388.7
State average	427.7	430.6	388.0	402.0	412.1

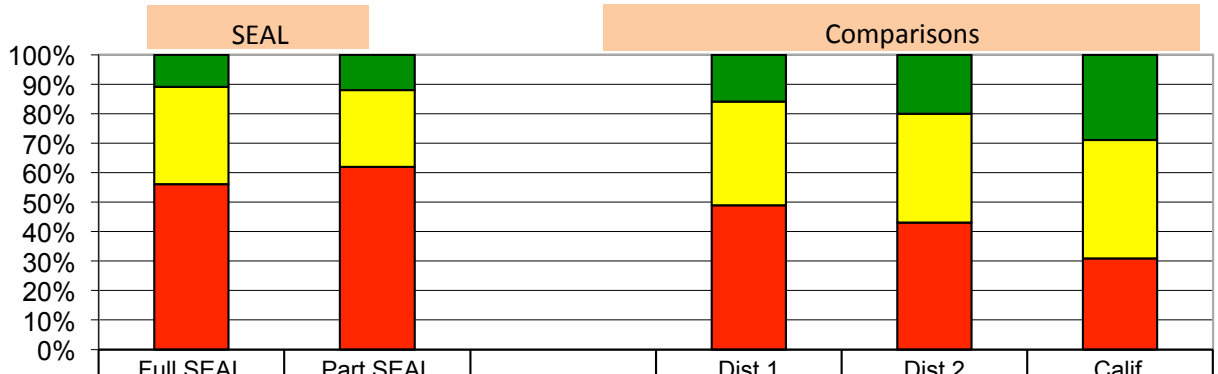
Second Grade Entry	Listening	Speaking	Reading	Writing	Total
Full SEAL average	448.6	452.8	425.8	**431.0*****	**437.9***
Partial SEAL average	446.2	445.3	413.6	406.9	427.3
District 1 average	460.5	455.2	415.3	447.9	444.7
District 2 average	466.6	465.2	421.2	445.0	449.5
State average	483.5	479.2	439.3	465.9	467.0

Third Grade Entry	Listening	Speaking	Reading	Writing	Total
Full SEAL average	**483.0****	**484.7*****	457.1	**479.0***	**475.9*****
Partial SEAL average	456.9	465.1	444.2	465.6	457.8
District 1 average	467.5	466.0	465.9	480.7	470.0
District 2 average	465.2	478.4	467.0	481.5	473.0
State average	481.4	485.3	478.6	495.3	485.2

Fourth Grade Entry	Listening	Speaking	Reading	Writing	Total
Full SEAL average	525.8	521.4	506.3	519.4	517.8
Partial SEAL average	509.6	516.8	488.3	514.7	507.0
District 1 average	501.1	494.6	490.5	498.4	496.2
District 2 average	499.6	509.8	494.4	505.0	502.2
State average	512.0	515.0	496.9	507.5	507.9

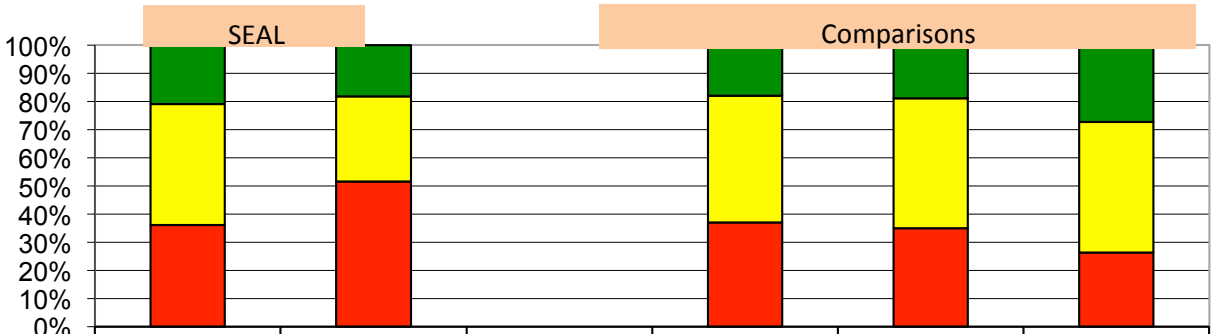
Chart 24 - Percentage at each level of Proficiency by Full vs. Partial SEAL

Second Grade Entry



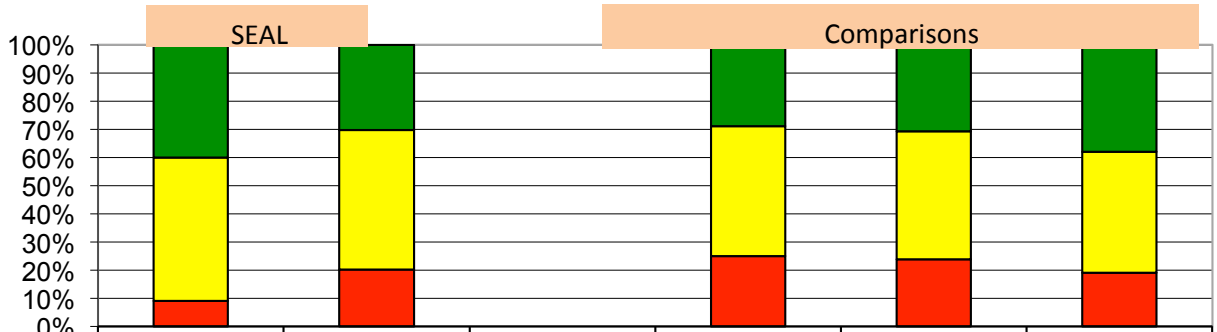
	Full SEAL	Part SEAL	.	Dist 1	Dist 2	Calif
Early Adv/Adv	11	12		16	20	29
Intermediate	33	26		35	37	40
Begin/Early Int	56	62		49	43	31

Third Grade Entry



	Full SEAL	Part SEAL	.	Dist 1	Dist 2	Calif
Early Adv/Adv	21	18		18	19	27
Intermediate	43	30		45	46	46
Begin/Early Int	36	51		37	35	26

Fourth Grade Entry



	Full SEAL	Part SEAL	.	Dist 1	Dist 2	Calif
Early Adv/Adv	40	30		29	31	38
Intermediate	51	49		46	46	43
Begin/Early Int	9	20		25	24	19

4. California Standards Test (CST) and Standards Test in Spanish (STS)

Charts 25a and 26a provide the English CST and Charts 25b and 26b the Spanish STS performance levels of the Cohort 1 SEAL students as second graders. This information is disaggregated for Full vs. Partial SEAL students, and there is also similar data presented with the district, state, and DL averages. Table 19 presents the average scale scores for the CST and STS; each of these charts and table provides data disaggregated by Full vs. Partial SEAL. These charts and table also provide averages from the two school districts, the state, and a dual language school (similar to School B) for comparison purposes. On the CST and the STS, a score of 350 is the cut-off for grade-level performance, or a rating of Proficient.

These charts all show that Full SEAL students are far more likely to score at Proficient or Advanced and less likely to score at Far or Below Basic than Partial SEAL students. Table 19 provides corroborative evidence using scale scores; that is, the scale scores of Full SEAL students exceeded those of Partial SEAL students overall, a difference that is highly statistically significant in all areas: reading in English and Spanish and math in English and Spanish.

In addition, the charts show that Full SEAL students were as or more likely to score at or above grade level (Proficient or Advanced) compared to their district, state, and DL peers (though slightly lower than state peers on the CST), though Partial SEAL students scored lower than their district and state peers on the CST but comparable or higher on the STS.

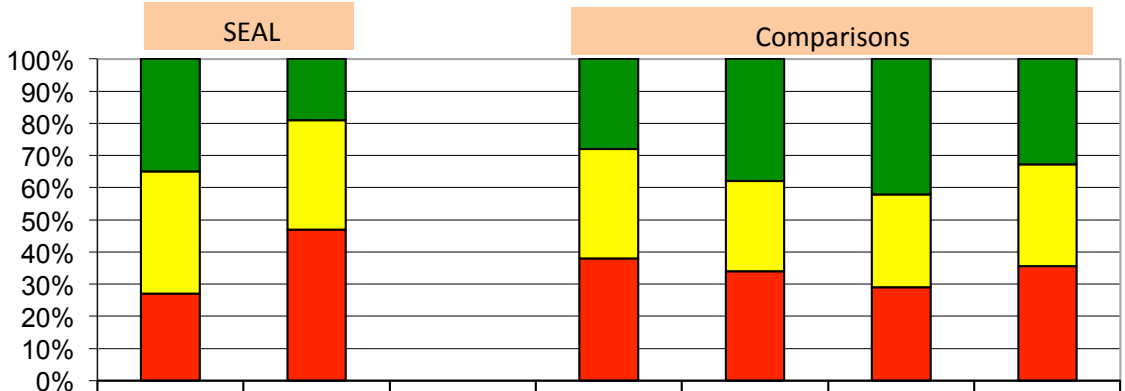
As Table 19 indicates for the CST, Full SEAL students scored comparably to their EL peers at the district and state levels. On the STS, again we see that Full SEAL students scored well above the district and state averages in math, but not quite as high as the DL average or state average in reading.

Table 19
Scale Scores for Spanish-Speaking Second Grade

	CST – English Reading Language Arts	STS – Spanish Reading Language Arts	CST – English Mathematics	STS – Spanish Mathematics
Full SEAL average	**328.0*** **	**366.0** **	**372.1*** **	**392.0** **
Partial SEAL average	303.4	336.5	329.1	350.5
District 1 average - EL	316.8	331.5	343.8	367.4
District 2 average - EL	331.5	339.5	354.7	371.6
State average – EL	336.7	388.0	359.3	361.8
DL average – EL	321.4	381.2	362.7	402.2

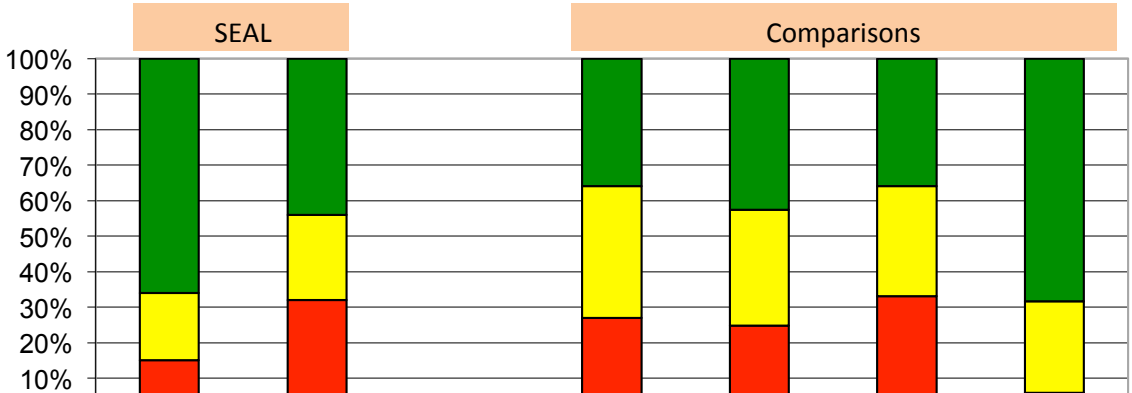
Note. Differences not statistically significant unless noted. * p<.05, ** p<.01, *** p<.001

Chart 25a - Percentage of Students at each level of Performance
Full vs. Partial SEAL
English - CST - Reading/Language Arts



	Full SEAL	Part SEAL	.	Dist 1	Dist 2	Calif	DL Sch
Profic/ Adv	35	19		28	38	42	33
Basic	38	34		34	28	29	32
Far/Below Basic	27	47		38	34	29	36

Chart 25b - Percentage of Students at each level of Performance
Full vs. Partial SEAL
Spanish - STS - Reading/Language Arts

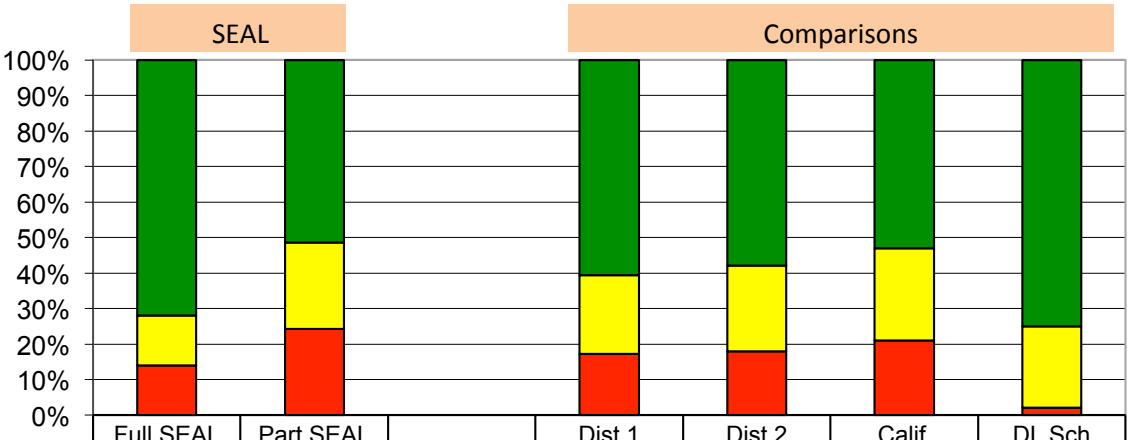


	Full SEAL	Part SEAL	.	Dist 1	Dist 2	Calif	DL Sch
Profic/ Adv	66	44		36	43	36	69
Basic	19	24		37	33	31	26
Far/Below Basic	15	32		27	25	33	6

Chart 26a - Percentage of Students at each level of Performance
by School Site and Full vs. Partial SEAL
English - CST - Mathematics

	Full SEAL	Part SEAL	.	Dist 1	Dist 2	Calif	DL Sch
Profic/ Adv	66	39		50	51	54	57
Basic	14	22		23	20	23	25
Far/Below Basic	20	39		27	28	22	18

Chart 26b - Percentage of Students at each level of Performance
by School Site and Full vs. Partial SEAL
Spanish - STS - Mathematics



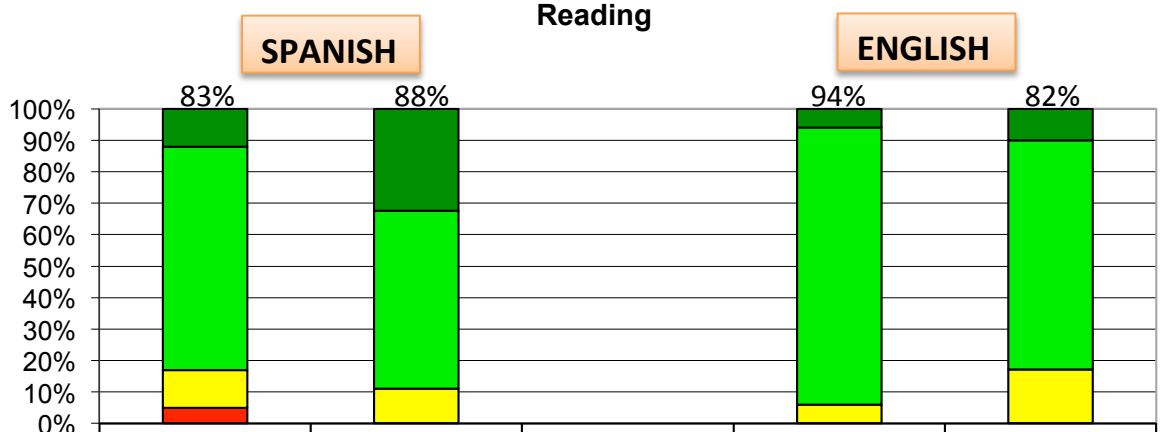
	Full SEAL	Part SEAL	.	Dist 1	Dist 2	Calif	DL Sch
Profic/ Adv	72	51		60	58	53	75
Basic	14	24		22	24	26	23
Far/Below Basic	14	24		17	18	21	2

5. Children's Progress Academic Assessment (CPAA)

In Chart 27, the percentages of Full vs. Partial students at each level of the CPAA in English and Spanish are presented for second grade. In Spanish and English, most of the Full and Partial SEAL students scored At or Above expectation in both reading and math. More Partial SEAL students were Above grade level expectation in Spanish (32% vs. 12%) and in English (10% vs. 6%), though more Full SEAL students were At/Above expectation in English (94% vs. 82%), though these differences were not statistically significant. In math, most of the students are At or Above expectation.

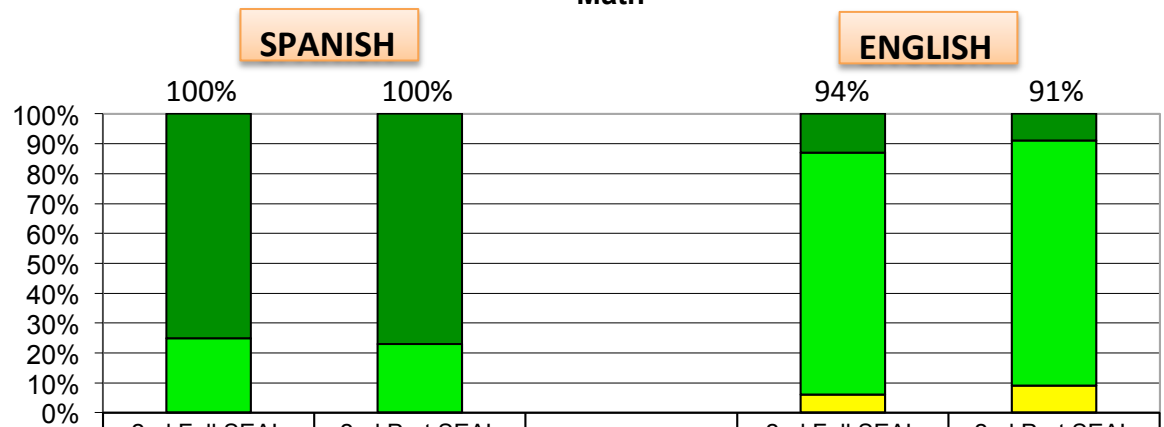
Chart 27 - Percentage of Students at each level of Performance in Spanish and English CPAA - by Full vs. Partial SEAL

Reading



	2nd Full SEAL	2nd Part SEAL	.	2nd Full SEAL	2nd Part SEAL
Above	12	32		6	10
At	71	56		88	72
Approaching	12	11		6	17
Below	5	0		0	0

Math



	2nd Full SEAL	2nd Part SEAL	.	2nd Full SEAL	2nd Part SEAL
Above	75	77		13	9
At	25	23		81	82
Approaching	0	0		6	9
Below	0	0		0	0

3. Are there similarities and differences in the level of performance and growth among SEAL participants in terms of:
- **a. School sites**
- **b. Cohorts**

1. Desired Results Developmental Profile

- **School Site Comparisons**

For each cohort, there were differences across the three school sites in all areas: Language and Literacy, English Language Development, Mathematics, and Cognitive Development. This variation was documented in each of the Year 1 through Year 3 reports. However, the variation was not consistent across schools; that is, there was no particular school that was the best or worst across cohorts. In general, across all years, students at all three schools started with fairly low levels in, and they made significant gains across the preschool so that the majority of students were scoring at the top two levels in Spanish by the end of SEAL preschool – in language and literacy, mathematics, and cognitive development.

- **Cohort Comparisons**

For each of the years in which DRDP was analyzed for Cohorts 1-3 and as documented in Years 1-3 reports, results showed that overall students in the three cohorts differed somewhat across items, but show the same patterns of results:

- **Children in all three cohorts began preschool with very low language and literacy, math, and cognitive scores** – with most at Level 1 or 2 – (Exploring to Developing);
- **Children in all three cohorts made statistically significant growth** of at least one level in each item and overall across the six months of preschool (from fall to spring of assessment).

2. Language Assessment Scales (Pre-LAS and LAS)

- **School Site Comparisons**

Table 20 presents the Spanish Pre-LAS or LAS scores for each school site at each grade level. For each grade level, there are significant differences according to school site. For second grade, School A children obtained significantly higher scores than Schools B and C students. For the remaining grade levels, School A children scored significantly higher than School B and C children, and children at School B scored significantly higher than children at School C. One can see these differences both in the mean scores and in the percentage of student that were fluent in Spanish.

Table 20
Spanish Pre-LAS Classification for Spanish Speakers – Fall

	Level 1 Not Fluent	Levels 2-3 Limited	**Total % Levels 4-5 Fluent**	**Average Score**
Kindergarten Entry (n = 459)				*** A>B>C
School A (n=108)	9%	37%	**54%**	**80.6**
School B (n=138)	23%	44%	**33%**	**73.7**
School C (n=213)	42%	40%	**18%**	**65.1**
First Grade Entry (n = 534)				*** A>B>C
School A (n=118)	2%	9%	**89%**	**87.7**
School B (n=160)	10%	24%	**66%**	**81.0**
School C (n=256)	18%	51%	**31%**	**74.7**
Second Grade Entry (n = 337)				*** A>B,C
School A (n=65)	9%	35%	**56%**	**75.8**
School B (n=90)	24%	54%	**22%**	**63.4**
School C (n=182)	18%	65%	**17%**	**62.5**
Third Grade Entry (n = 163)				*** A>C>B
School A (n=36)	8%	14%	**78%**	**81.4**
School B (n=52)	17%	56%	**27%**	**65.2**
School C (n=75)	16%	35%	**49%**	**72.6**

- **Cohort Comparisons**

Table 21 presents the Spanish Pre-LAS scores in percentages of students at each proficiency level to examine for Cohort variations. In looking at how each of the cohorts scored when they entered the SEAL program as a preschooler, we see that Cohorts 1, 3 and 4 were fairly comparable in the percent of children who were fluent in Spanish, and all four cohorts had similar average scores. If we look at the children entering kindergarten after a year of SEAL preschool, we can see that Cohort 3 children were weaker than Cohort 2 children, who were weaker than Cohort 1 children, with almost 20-30% fewer Cohort 2 and 3 children fluent in Spanish and a lower average score as well. As first graders though, there was no difference between Cohort 1, 2, and 3 students in their overall total score, but with Cohort 2 students slightly more likely to be proficient in Spanish (63% vs. 55-56%).

Table 21
Spanish (Pre)LAS Classification – Cohort Comparisons

	Level 1 Not Fluent	Levels 2-3 Limited	**Levels 4-5 Fluent**	**Average Score**
As Preschoolers				
Cohort 1 (n=102)	36%	43%	**21%**	**61.1**
Cohort 2 (n=181)	32%	37%	**31%**	**63.7**
Cohort 3 (n=180)	38%	42%	**21%**	**60.4**
Cohort 4 (n=129)	42%	39%	**19%**	**59.1**
As Kindergartners with SEAL Preschool				
Cohort 1 (n=90)	10%	39%	**51%**	**79.9**
Cohort 2 (n=97)	24%	44%	**32%**	**71.3**
Cohort 3 (n=79)	35%	41%	**24%**	**62.3**
As First Graders with SEAL Preschool				
Cohort 1 (n=97)	4%	41%	**55%**	**81.3**
Cohort 2 (n=105)	7%	31%	**63%**	**81.7**
Cohort 3 (n=68)	9	35	**56%**	**80.5**
As Second Graders with SEAL Preschool				
Cohort 1 (n=96)	7%	53%	**40%**	**70.9**
Cohort 2 (n=80)	13%	69%	**19%**	**65.4**

The next table (Table 22) presents the gains made by the children from the beginning of preschool to the beginning of first grade in Spanish. This table shows that the students' scores increased by 16-20 points for Cohorts 1 - 3; these were all highly statistically significant gains.

Table 22
Spanish Pre-LAS Mean Scores (Standard Deviation)
Cohorts 1 - 3

	Preschool Entry	Kindergarten Entry	First Grade Entry	Gain
Cohort 3	62.8 (21.2)	76.3 (13.1)	80.6 (11.3)	17.8***
Cohort 2	65.6 (20.8)	69.4 (16.5)	81.7 (12.5)	16.1***
Cohort 1	62.3 (19.9)	79.5 (12.5)	81.9 (11.7)	19.6***

** p < .01, *** p < .001

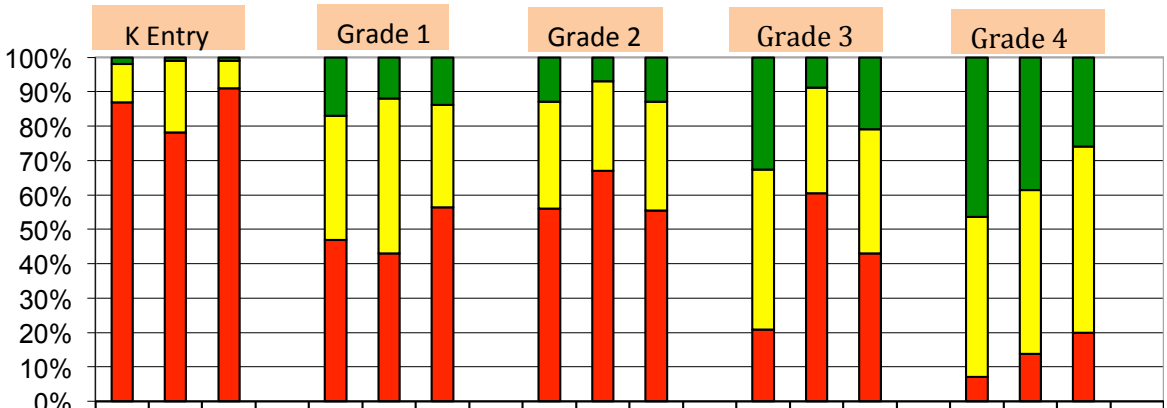
3. California English Language Development Test (CELDT)

- **School Site Comparisons**

Chart 28 provides a look at school site variation for each grade level; it shows the percentage of students at different levels of the CELDT – Beginning/Early Intermediate, Intermediate, and Early Advanced/Advanced. As we saw with the LAS, there is a fair amount of variation across the schools, with differences in the percentage of students that were Beginning/Early Intermediate, Intermediate, or Early Advanced/Advanced. For example, in Cohort 3, there was variation in the percentage of students who had attained Early Advanced/Advanced, from 13% at Schools A and B to 26% at School C. But this difference among schools was not consistent across the cohorts; for example, in Cohort 1, School C had the most Early Advanced/Advanced students followed by Schools A and B. Nonetheless, the schools showed similarity in that there was movement toward higher proficiency across the grade levels.

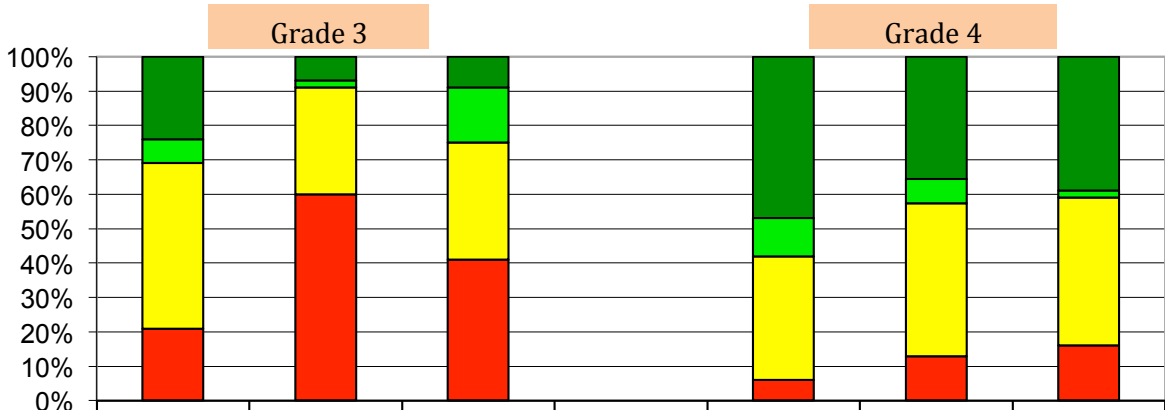
Chart 29 provides an illustration of the growth over time for each school. The chart shows that the schools all showed growth; however, School C showed greater growth, starting with the lowest score and moving toward the highest, while School B showed less growth. At grades K and 3, the scores of School A were significantly higher than those of Schools B (and C in kindergarten). At the other grade levels, there was no school that consistently had the highest or lowest scores across all grades.

Chart 28 - Percentage of Students at each level of CELDT Total Proficiency by School



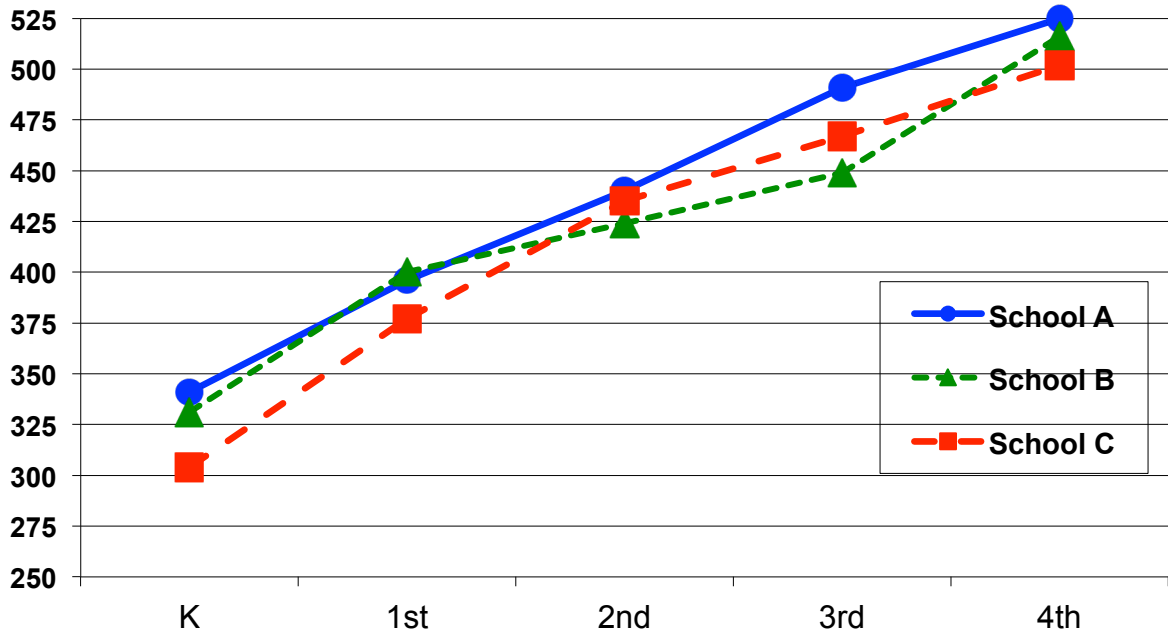
	Sch A	Sch B	Sch C	.	Sch A	Sch B	Sch C	.	Sch A	Sch B	Sch C	.	Sch A	Sch B	Sch C	.	Sch A	Sch B	Sch C	.
Early Adv/Adv	2	1	1		17	12	14		13	7	13		33	9	21		46	39	26	
Intermed	11	21	8		36	45	30		31	26	32		47	31	36		46	48	54	
Beg/Early Int	86	79	91		47	43	57		56	67	56		21	61	43		7	14	20	

Chart 29 - Percentage of Students at each level of CELDT Total Proficiency and RFEP by School



	Sch A	Sch B	Sch C	.	Sch A	Sch B	Sch C
RFEP	24	7	9		47	36	39
Early Adv/Adv	7	2	16		11	7	2
Intermed	48	31	34		36	45	43
Beg/Early Int	21	60	41		6	13	16

Chart 30: CELDT -- Total Scale Scores Over Time



- **Cohort Comparisons**

Table 23 provides the average scores for Cohorts 1 - 3 children when they entered kindergarten, first grade, second grade, or third grade. As this table shows for kinder entry, no one Cohort scored considerably lower or higher than other Cohorts; each was stronger in a couple of areas. In contrast, at first grade entry, Cohort 3 tended to be stronger in most areas than Cohorts 1 and 2 except in writing. At third grade entry, Cohort 1 tended to have higher scores than Cohort 2, especially in reading and writing.

Table 23
English CELDT Scale Scores for Spanish Speaking – Means and (Standard Deviations)

Kindergartners – Cohort 1 vs. 2 vs. 3

	Listening	Speaking	Reading	Writing	Total
SEAL Cohort 3 (n=149)	327.7 (72.7)	316.0 (112.1)	**282.9** (31.7)	334.2 (32.6)	321.1 (75.7)
SEAL Cohort 2 (n=101)	**339.4** (64.4)	**336.0** (104.3)	270.6 (42.5)	346.4 (32.4)	**335.3** (64.4)
SEAL Cohort 1 (n=98)	317.4 (81.8)	295.1 (112.3)	277.6 (29.3)	**353.7** (36.4)	306.7 (79.6)

First Grade – Cohort 1 vs. 2 vs. 3

	Listening	Speaking	Reading	Writing	Total
SEAL Cohort 3 (n=160)	**408.3** (65.6)	**390.9** (60.1)	**362.8** (82.3)	342.3 (52.1)	**405.1** (54.1)
SEAL Cohort 2 (n=224)	395.0 (73.9)	385.9 (97.8)	333.1 (49.6)	**384.7** (24.1)	386.1 (73.9)
SEAL Cohort 1 (n=98)	317.4 (81.8)	295.1 (112.3)	277.6 (29.3)	353.7 (36.4)	306.7 (79.6)

Second Grade – Cohort 1 vs. 2 vs. 3

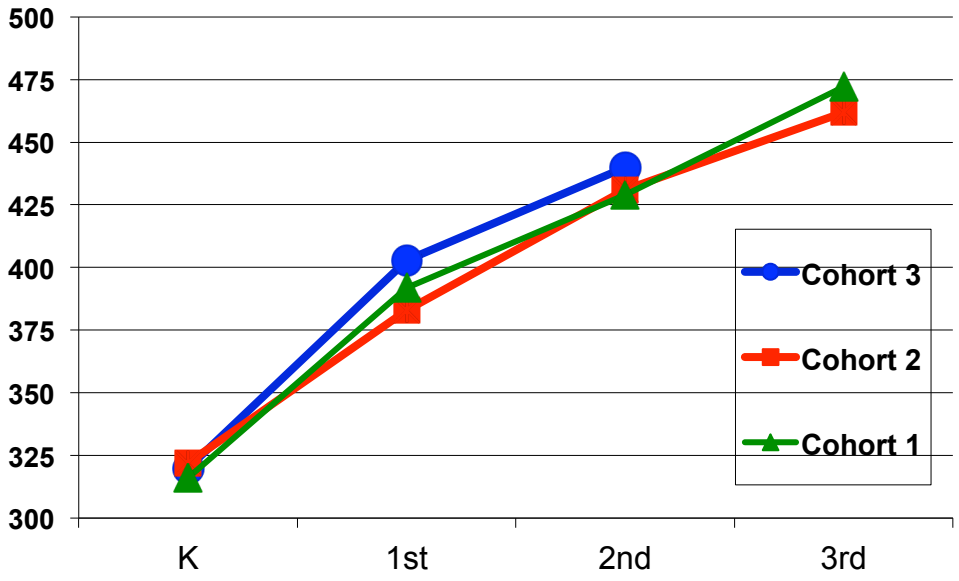
	Listening	Speaking	Reading	Writing	Total
SEAL Cohort 3 (n=126)	448.2 (67.7)	**457.2** (62.3)	426.6 (66.7)	406.9 (75.2)	**439.5** (49.8)
SEAL Cohort 2 (n=206)	446.8 (56.6)	447.6 (65.2)	**431.6** (73.8)	405.1 (73.3)	431.6 (51.5)
SEAL Cohort 1 (n=181)	447.6 (64.3)	444.9 (69.6)	401.4 (70.0)	**428.6** (66.4)	432.5 (51.7)

Third Grade – Cohort 1 vs. 2

	Listening	Speaking	Reading	Writing	Total
SEAL Cohort 2 (n=180)	**474.4** (79.1)	475.9 (47.2)	441.1 (73.3)	457.4 (63.4)	461.8 (49.3)
SEAL Cohort 1 (n=179)	465.5 (78.5)	473.8 (66.3)	**460.3** (71.1)	**487.3** (49.1)	**471.9** (50.7)

In Chart 31, we can see the progress of students' English language proficiency as they move across the grade levels. As this chart indicates, students make good growth over time, and the scores for each cohort look very similar at each grade level, though Cohort 3 is stronger than Cohorts 1-2 at first grade.

Chart 31: CELDT Overall Scale Scores Over Time



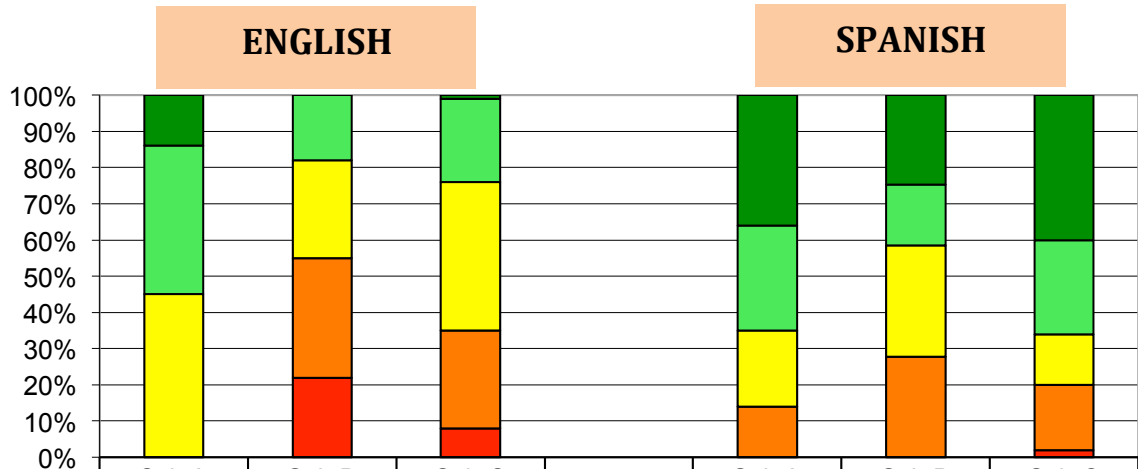
4. California Standards Test (CST) and Standards Test in Spanish (STS)

- **School Site Comparisons**

Chart 31 presents the percentage of students at each performance level on the CST and STS for each school in reading/language arts and mathematics. As we saw with the CELDT and LAS, there is considerable variation across the schools. On the CST, School A students were far more likely to be at or above grade level (Proficient or Advanced) than Schools B and C students. On the STS, Schools A and C students performed similar to one another in reading, and higher than students at School B, though School A scored higher than Schools B and C in math.

Table 24 provides the CST scale scores for each school. Consistent with the results in Chart 37, School A scored significantly higher than School C, which scored higher than School B. There were no statistically significant differences on the STS in reading, but School A outscored

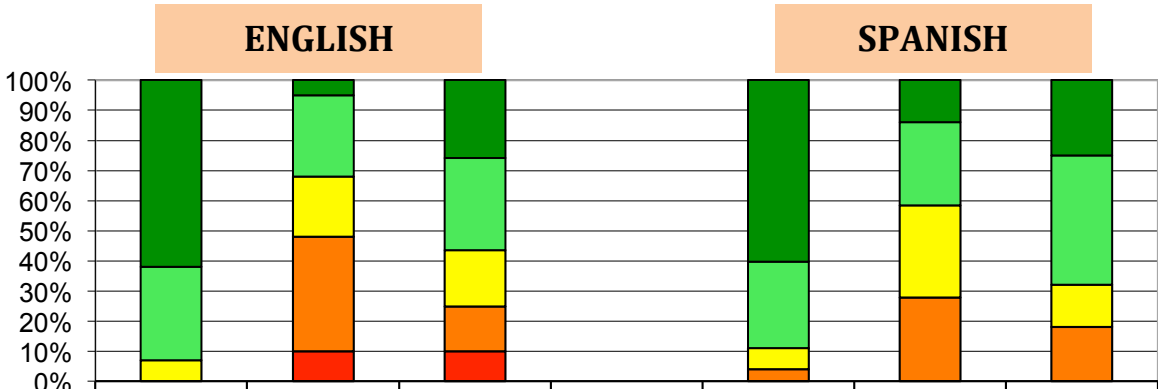
Chart 31 - Percentage of Students at each level of Performance
CST (English) and STS (Spanish)
Reading/Language Arts



	Sch A	Sch B	Sch C	.	Sch A	Sch B	Sch C
Advanced	14	0	1		36	25	40
Proficient	41	18	23		29	17	26
Basic	45	27	41		21	31	14
Below Basic	0	33	27		14	28	18
Far Below	0	22	8		0	0	2

Schools B and C in math.

Mathematics



	Sch A	Sch B	Sch C	.	Sch A	Sch B	Sch C
Advanced	62	5	26		61	14	25
Proficient	31	27	31		29	28	43
Basic	7	20	19		7	31	14
Below Basic	0	38	15		4	28	18
Far Below	0	10	10		0	0	0

Table 24

Scale Score Means (Standard Deviations) for CST and STS by School Site

	CST - English Reading Language Arts	STS - Spanish Reading Language Arts
School A	**350.3** (43.0)	357.6 (48.1)
School B	298.9 (44.7)	342.8 (49.9)
School C	318.2 (44.1)	363.3 (68.7)
SEAL Cohort 1	316.8 (47.4)	355.4 (58.8)
School Differences	*** A>C>B	No

	CST – English – Math	STS – Spanish – Math
School A	**431.8** (68.9)	431.0 (76.3)
School B	311.5 (63.3)	344.3 (64.9)
School C	354.8 (81.5)	370.0 (70.5)
SEAL Cohort 1	352.6 (83.8)	376.9 (77.1)
School Differences	*** A>C>B	*** A> B,C

4. Are there similarities and differences in the level of performance and growth among SEAL participants in terms of:

c. Language of instruction (bilingual vs. English/SEI)

d. Student language proficiency

1. Desired Results Developmental Profile

• Language of Instruction Comparisons

Table 25 presents the fall, spring and gain scores for the students who received English vs. Bilingual instruction. As this table indicates, students in both groups made highly statistically significant gains in both Spanish and English. There are few statistically significant differences on the DRDP: students receiving Bilingual instruction scored higher than those in English SEI classes in the fall but not spring in Spanish language and literacy, while those in English/SEI classes scored significantly higher than children in Bilingual classes in the spring in English language development.

Table 25
DRDP Performance in English vs Bilingual Programs

	Total Score Fall	Total Score Spring	Gain	Paired t-test value & level of significance
Language & Literacy				
English Instruction (n = 12)	15.3	28.6	13.3	t(11) = 9.7***
Bilingual Instruction (n = 145)	17.6*	29.5	12.5	t(144) = 20.2***
English Language Development				
English Instruction (n = 8)	5.8	11.6*	5.8	t(7) = 8.8***
Bilingual Instruction (n = 98)	5.3	9.6	4.3	t(97) = 9.9***
Mathematics				
English Instruction (n = 12)	10.0	18.5	8.5	t(11) = 8.1***
Bilingual Instruction (n = 124)	8.4	17.4	9.0	t(123) = 20.2***
Cognitive				
English Instruction (n = 12)	8.5	15.6	7.1	t(11) = 14.2***
Bilingual Instruction (n =129)	7.9	14.5	6.6	t(128) = 17.7***
Social Development				
English Instruction (n = 12)	21.3	38.5	17.2	t(11) = 15.9***
Bilingual Instruction (n = 138)	22.1	37.2	15.1	t(137) = 21.9***

*** highly significant, $p < .001$

Language Assessment Scales (Pre-LAS and LAS)

- **Language of Instruction Comparisons**

Chart 32 and Table 26 present the progression of scores in Spanish across the grade levels for children in the two language instruction groups (Bilingual vs. English/SEI); it is important to remember that the assessment changed to a more difficult version in second grade, which explains the large apparent loss for all groups. Nonetheless, there are three important points shown in the table and chart:

- At all measurement points, students receiving bilingual instruction scored significantly higher than children receiving English/SEI instruction.
- At kindergarten entry, the scores of all groups are closer than at any other point.
- From kindergarten to first grade, we see that students receiving bilingual instruction make greater gains and those receiving English instruction less growth in Spanish language development.
- While all groups demonstrate a decrease from first to second grade (when the assessment changed to a more difficult version), the largest loss is seen in the English instruction groups, though all groups show a rebound of several points from second to third grade.
- These data provide further documentation of language loss for children enrolled in All English/SEI and the Combination group where they have received only English instruction since kindergarten.

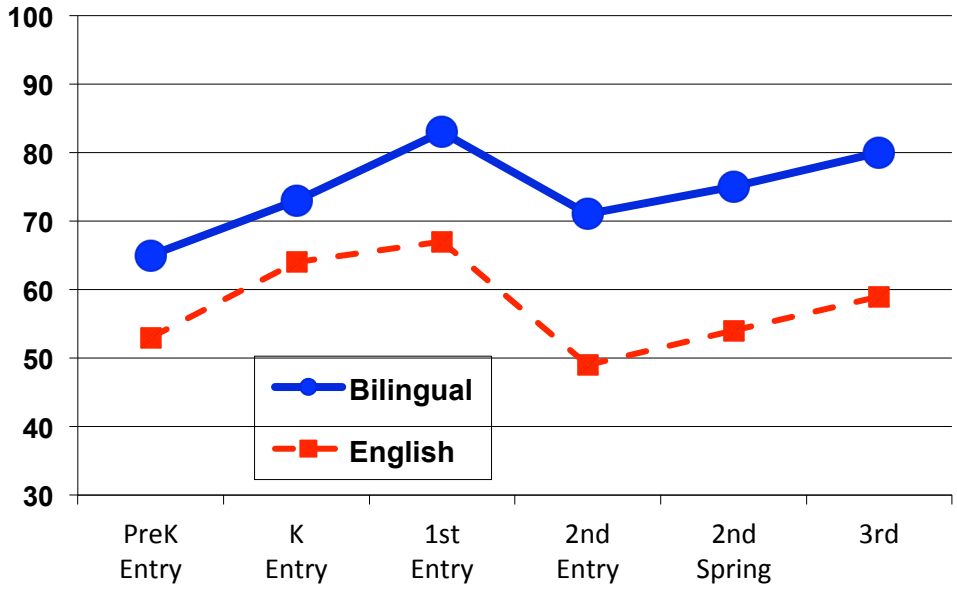
Table 26

Spanish (Pre)LAS Mean Scores by Language of Instruction for Each Grade Level

	Preschool Entry	Kinder Entry	1st Grade Entry	2nd Grade Entry	2nd Grade Exit	3rd Grade All
Bilingual	65**	73**	83**	71**	75**	80**
English/SEI	53	64	66	49	54	59

***p< .001

Chart 32: LAS Overall Scale Scores Over Time
Bilingual vs. English Instruction



3. California English Language Development Test (CELDT)

- **Language of Instruction Comparisons**

Table 27 presents the CELDT scores to examine whether there is a significant difference in students' CELDT scores according to the language of instruction during the previous years of SEAL (Bilingual vs. English/SEI). As mentioned previously, children who received Bilingual instruction were taught in both Spanish and English while children receiving English instruction were taught only in English. One might expect that students would score higher on an English language development test if their instruction had all been through English. However, the results do not consistently provide evidence for that perspective across the grade levels. At entry to first and second grades, students who received all English instruction scored significantly higher than those who received bilingual instruction. By third and fourth grades, though, there was no longer any difference between students who received instruction in English or bilingual.

Table 27
English CELDT Scale Scores for Each Domain and Total by Language of Instruction

First Grade *Entry*

	Listening	Speaking	Reading	Writing	Total
All Bilingual (n=368)	392.8	380.3	339.1	375.9	385.7
All English/SEI (n=96)	**423.9**	**427.8**	**374.4**	381.8	**425.5**
Significant differences	*** Eng>Bil	*** Eng>Bil	*** Eng>Bil	No	*** Eng>Bil

Second Grade *Entry*

	Listening	Speaking	Reading	Writing	Total
All Bilingual (n=323)	441.4	437.7	415.9	416.1	427.3
All English/SEI (n=99)	**456.9**	**470.5**	**431.9**	**438.8**	**446.6**
Significant differences	* Eng>Bil	*** Eng>Bil	No	** Eng>Bil	*** Eng>Bil

Third Grade *Entry*

	Listening	Speaking	Reading	Writing	Total
All Bilingual (n=182)	471.9	471.3	452.4	477.1	467.8
All English/SEI (n=56)	463.1	466.3	458.8	488.9	469.9
Significant differences	No	No	No	No	No

Fourth Grade *Entry*

	Listening	Speaking	Reading	Writing	Total
All Bilingual (n=68)	523.5	505.9	500.2	514.8	510.7
All English/SEI (n=33)	507.0	523.0	489.9	516.7	508.8
Significant differences	No	No	No	No	No

* p<.05, ** p < .01, *** p<.001

Table 28 shows change scores from kindergarten to first, second, third, and fourth grades according to language of instruction. This table suggests three important points:

- There were large differences in the kindergarten entry scores between children receiving Bilingual and those receiving English instruction, with a 30 point difference favoring groups receiving English instruction in kindergarten;
- The largest gain was made by the Bilingual group, with over 50 additional points gained over the English group;
- The Bilingual group caught up to the English group by third grade, and surpassed the English group by fourth grade.

Table 28
English CELDT Scale Scores (Standard Deviation)

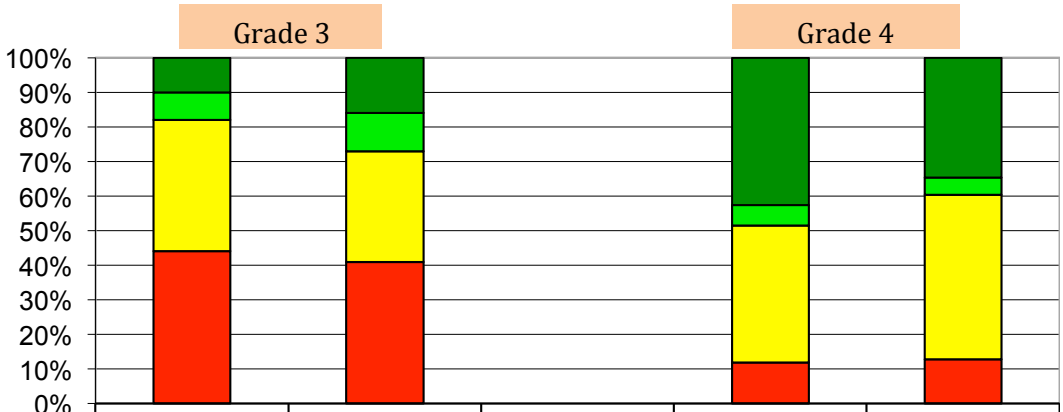
Change Scores from Kinder to Fourth Grade Entry

	Kinder Entry	1st Grade Entry	2nd Grade Entry	3rd Grade Entry	4th Grade Entry	**Change** K to 4th
Bilingual (n=67)	298.7 (71.9)	373.5 (63.3)	413.9 (47.0)	466.6 (42.6)	518.1 (39.5)	219.4***
English/SEI (n=16)	328.1 (80.4)	416.8 (52.1)	433.9 (44.8)	460.2 (47.3)	495.4 (42.3)	167.3***

*** $p < .001$

Finally, Chart 33 provides a depiction of the movement across levels of English proficiency for the Bilingual vs. English instruction groups by grades 3 and 4. As the chart indicates, slightly more students in English were reclassified as RFEP in third grade, but by fourth grade, considerably more students were reclassified as RFEP (43% vs. 35%) and more children were English proficient (49% vs. 40%) in bilingual compared to English programs.

Chart 33 - Percentage of Students at each level of CELDT Total Proficiency and RFEP by Language of Instruction



	Bilingual	English/SEI	.	Bilingual	English/SEI
RFEP	10	16		43	35
Early Adv/Adv	8	11		6	5
Intermed	38	32		40	48
Beg/Early Int	44	41		12	13

- **Student Language Proficiency**

A final potential group difference was analyzed to determine the significance of bilingualism (level of Spanish proficiency as measured by the LAS) for students in the Bilingual SEAL program. Table 29 provides the CELDT means for the second through fourth graders by level of Spanish proficiency. Among both second and fourth graders, students who were Fluent in Spanish scored significantly higher in English than students who were Limited in Spanish and this was especially true in fourth grade.

Table 29

English Second Grade CELDT Scale Scores by Level of Spanish Proficiency for *Bilingual Programs Only*

	Overall Mean (SD) 2nd Grade	Overall Mean (SD) 3rd Grade	Overall Mean (SD) 4th Grade
Fluent Spanish	430.9*	469.5	528.0***
Limited Spanish	417.6	454.7	492.6

* $p < .05$

In addition, students' CELDT scores were highly correlated with the previous year's Spanish LAS vocabulary (r = .38-.41***) and story retelling scores (r = .34-.49***).

California Standards Test (CST) and Standards Test in Spanish (STS)

- **Language of Instruction Comparisons**

Table 30 presents the CST scores to examine whether there is a significant difference in the language of instruction (Bilingual vs. English/SEI). By second grade, students receiving English instruction do not score higher than their SEAL peers in Bilingual instruction despite spending more time in instruction through English; rather, students receiving Bilingual instruction score higher; but not significantly higher in reading/language arts, but significantly higher in math. These results are consistent with the results we saw with the CELDT and with the research showing that students who receive Bilingual instruction do no worse in English, and may do better, than their peers instructed only in English (Lindholm-Leary & Genesee, 2010).

Table 30

English CST Scale Scores for Spanish-Speaking Second Grade

	Reading Language Arts	Mathematics
Bilingual (n=110)	321.8	**367.1**
English/SEI (n=34)	310.4	329.4
Significant differences	No	**

- **Student Language Proficiency**

A further analysis was conducted to determine the significance of bilingualism (level of Spanish proficiency) for students in Bilingual SEAL programs. Table 31 provides the means for the Fluent vs. Limited in Spanish students. For both the CST and STS, there was a highly statistically significant difference favoring Fluent over Limited speakers of Spanish, and this was try for both reading/language arts and mathematics. Thus, the higher scorers on the English CST and the Spanish STS were the Fluent Spanish speakers and the lower scorers on the English CST and the Spanish STS were the Limited Spanish speakers.

Table 31

English CST Scale Scores in Reading/Language Arts and Math According to Fluency in Spanish

	CST - English Reading Language Arts	STS - Spanish Reading Language Arts	CST - English Mathematics	STS - Spanish Mathematics
Fluent Spanish	**344.5** (40.8)	**389.5** (44.9)	**413.2** (70.6)	**423.6** (66.8)
Limited Spanish	306.0 (41.8)	334.1 (56.6)	335.2 (76.0)	350.1 (67.5)
Significant difference	***	***	***	***

Are there differences in outcomes between SEAL students whose teachers have higher vs. lower levels of implementation of SEAL components by

One might expect that the level of implementation of the SEAL components in the teachers' instruction would impact student outcomes. This section examines student outcomes according to depth of implementation.

Language Assessment Scales (Pre-LAS and LAS)

Table 32 depicts the (Pre)LAS outcomes for first through third-grade students according to level of implementation of SEAL components. As the table shows, at both the first and second-third grade levels, there is no statistically significant impact of level of implementation on students' LAS scores.

Table 32

Spanish LAS/Pre-LAS Classification for Spanish-Speaking Students
By Level of Implementation (Lower vs. Higher) of SEAL Components

First Grade *Entry*

	Level 1 Not Fluent	Levels 2-3 Limited	Levels 4-5 Fluent	Mean Score
Higher Implementation (n=319)	11%	36%	**54%**	**78.9**
Lower Implementation (n=63)	5%	41%	**55%**	**81.4**

Second-Third Grades

	Level 1 Not Fluent	Levels 2-3 Limited	Levels 4-5 Fluent	Mean Score
Higher Implementation (n=275)	14%	37%	**49%**	**71.7**
Lower Implementation (n=52)	12%	44%	**54%**	**70.3**

California English Language Development Test (CELDT)

Level of implementation of the SEAL components in the teachers' instruction was also examined with respect to CELDT outcomes. Table 33 provides the CELDT outcomes for first and second-grade students according to level of implementation of SEAL components. Scores are reported within Bilingual programs since we saw that program language can significantly influence students' scores, and there were not enough students who were receiving instruction through English and had teachers who were high vs. lower implementers.

As Table 33 shows, at the first grade level, there is a significant impact of level of implementation on students' scores in Listening, Speaking, Reading, and Total. At the second grade level, there is only a significant difference in Reading; however in this case, children with lower implementing teachers scored higher in reading. At third grade, there was no significant difference between high vs. low implementers. At the fourth grade level, analyses could not be computed because most teachers were high implementers.

Table 33

English CELDT Scale Scores in Bilingual Program
By Level of Implementation (Lower vs. Higher) of SEAL Components

First Grade *Entry*

	Listening	Speaking	Reading	Writing	Total
	Yes*	Yes***	Yes*	No	Yes***
Higher Implementation (n=333)	**401.4**	**399.1**	**342.9**	391.7	**396.2**
Lower Implementation (n=66)	375.3	356.4	329.9	385.8	365.1

Second Grade *Entry*

	Listening	Speaking	Reading	Writing	Total
	No	No	Yes**	No	No
Higher Implementation (n=309)	449.8	450.3	409.7	416.4	429.6
Lower Implementation (n=62)	440.3	439.0	**454.6**	419.1	439.7

Third Grade *Entry*

	Listening	Speaking	Reading	Writing	Total
	No	No	Yes*	Yes*	Yes*
Higher Implementation (n=246)	469.7	474.3	443.6	467.7	463.5
Lower Implementation (n=77)	474.1	478.6	**469.2**	**485.8**	**476.9**

Fourth Grade *Entry*

	Listening	Speaking	Reading	Writing	Total
	No	Yes*	No	No	No
Higher Implementation (n=89)	517.8	510.4	496.9	514.3	509.4
Lower Implementation (n=37)	524.2	**537.8**	503.5	525.8	522.5

6. What impact does parent engagement have on student outcomes?

The final question examines the impact of parent engagement on student outcomes. This section provides results from a correlational analysis of parent survey items with student outcomes.

A set of items examined parent participation in workshops and parent-teacher conferences. This section demonstrates that a higher rate of parent participation was associated with higher language proficiency and achievement scores in some measures.

- Parent participation in the parent-teacher conferences was associated with higher
  - CELDT scores in grade 3 (r = .29*)
  - CPAA English language arts (r = .34*)

- Attendance at Family workshop focused on storytelling was associated with higher scores in Spanish vocabulary (r = .28*)

- Parents reading books more frequently to their child was also associated with a higher reading achievement score in Spanish (r = .29*) and with the frequency with which the children tell stories (r = .36***)

In addition, parents were fairly good at rating their child's language skills and intelligence.

- Parents' rating of their child's English proficiency was significantly related to their child's CELDT score (r = .27*) and their CST English language arts score (r = .26*)
- Parents' rating of their child's intelligence was significantly associated with their child's CELDT score (r = .31***), Spanish language proficiency score (r = .28*), their CST English language arts and math scores (r = .24* - r = .33**)

Part IV.

Key Findings

And

Conclusions

Key Findings and Conclusions

This study examines the progress of four cohorts of children who received one year of a SEAL preschool and then moved into a SEAL kindergarten through first, second, third, or into fourth grade. The focus of this final report was on the general findings for SEAL students as a group. Outcome data are available for 391 Full SEAL and 372 Partial SEAL students (who received some SEAL program in the elementary grades but did not attend SEAL preschool).

SEAL students come from homes with very low incomes ($27,384 per family of 4) and very low parent education levels (87% with high school or less, 56% with less than high school); the parent education level of students is similar to the comparison students. This low level of parent education can put the child at risk for poor language and literacy development in the home environment, which can further place the child at risk for underachievement in school. From the parent surveys, we learned that most SEAL parents have at least rudimentary literacy skills in Spanish, though few parents have basic literacy or oral language skills in English.

When parents were asked how often *each week* they participate with their child around various language or literacy activities (e.g., reading books, telling stories, singing songs), half or more of SEAL parents participated in all activities at least a couple of times a week. In addition, half of parents read books with their child on a daily basis, and most parents engaged in these activities on at least a weekly basis. In comparing the frequency with which SEAL family members read or told stories to the kindergarten child with the national ECLS-K sample of Hispanic parents and college-educated parents (of any ethnicity), SEAL parents were more likely to engage in these literacy-related activities than the national sample of Hispanic parents and as likely as the college-educated parents.

Quality and Depth of Implementation of the SEAL program

The first research question addressed in this report dealt with the level of quality of the SEAL program. Overall, there was a **high level of implementation in SEAL, with over two-thirds of teachers rated as High implementation**. Teachers were strong in all of the instructional components, with about three quarters of teachers rated as High implementation. Further, there was no difference in level of implementation across the school sites and though teachers were more likely to be rated as High implementation in classes with bilingual as compared to English instruction, this difference was not statistically significant.

Evaluation Findings

Data for this report include the Desired Results Developmental Profile (DRDP) given to all state-funded preschoolers; the Language Assessment Scale (LAS), the California English Language Development Test (CELDT) measure designed by the State of California to assess progress in the development of English language proficiency; the California Standards Test (CST) in English and its Spanish equivalent – Standards Test in Spanish (STS) – to assess students' levels of skill development in reading/language arts and mathematics; and the Children's

Progress Academic Assessment (CPAA) which measured reading/language arts and math in English and Spanish.

The major question guiding this evaluation for the final report was: What do we know about the language, literacy, and mathematics development in grades PreK to 3 of the students after five years of SEAL implementation? There are five questions that address this overarching concern:

1. What is the overall level of performance and growth?
2. Is there a difference between Full vs. Partial SEAL students? How do the SEAL Cohort students compare to other students who are demographically similar to them?
3. What are the similarities and differences in the levels of performance and growth among SEAL participants in terms of:
   a. School sites
   b. Cohorts
   c. Language of instruction (bilingual vs. English/SEI)
   d. Level of Spanish language proficiency
4. Are there differences in outcomes between SEAL students whose teachers have higher vs. lower levels of implementation of SEAL components?
5. What impact does parent engagement have on student outcomes?

1. What is the overall level of performance and growth?

This question was addressed with all five assessment instruments: Desired Results Developmental Profile (DRDP), the Language Assessment Scale (LAS), the California English Language Development Test (CELDT), the California Standards Test (CST) in English, the Standards Test in Spanish (STS), and the Children's Progress Academic Assessment (CPAA) in English and Spanish.

- Overall, **DRDP** results showed that **children began preschool with very low levels of language, literacy, mathematics, cognitive, and social skills**. However, they made **excellent gains** and ended the preschool year with the **majority of students at the expected level of kindergarten entry** (top two levels of DRDP).

- On the (Pre)**LAS** in Spanish and English, we again see that the children **entered preschool with very low levels of proficiency in their native language (Spanish) and English**. Only 27% of entering SEAL preschoolers were considered Fluent in Spanish,

and 32% were Not Fluent. Each year, students showed highly significant growth and by the end of second and into third grade, half of students were Fluent in Spanish on the more difficult LAS test. As we will see later, higher levels of proficiency in Spanish are associated with higher levels of proficiency in English and academic achievement in both languages.

- According to the CELDT language proficiency measure in English that was given to children at entry to kindergarten, first, second, third, and fourth grades, students started at low levels of proficiency in English. Over time, students made significant progress, with over three quarters of students moving up one more levels or already Proficient from kindergarten to 3rd grade (73%) and 4th grade (91%). By fourth grade, half of students were classified as Early Advanced or Advanced on the CELDT or had been reclassified as Fluent English Proficient (RFEP). Further, by third and fourth grades, Full SEAL students scored significantly higher than Partial SEAL students (third grade) and were far more likely to have achieved proficiency in English (Early Advanced or Advanced on the CELDT or RFEP).

    - Since 75-83% of second and third-grade students had been at the Not Fluent level in English in preschool, it would appear that students had made good gains in English over the course of the three to four years, even though the measures used to assess English proficiency were different (LAS and CELDT).

- On the CST, while only 28% of students scored at Proficient or Advanced, close to two-thirds scored at least Basic in reading/language arts; over half (54%) scored at Proficient or Advanced in math.

- Second-grade students scored much higher on the STS, with 58% scoring at or above grade level and three quarters scoring Basic or above in reading/language arts, and two thirds achieving grade level or above (Proficient/Advanced) in math.

- According to the CPAA, most (86-87%) second graders scored At or Above Expectation in reading measured in Spanish and English; while most (88%) third graders achieved At or Above Expectation in literacy skills measured in Spanish, only 18% scored at grade level in literacy assessed in English. With respect to math, all or almost all second graders scored At or Above Expectation in math measured in both English and Spanish.

2. Is there a difference between Full vs. Partial SEAL students? How do the SEAL Cohort students compare to other students who are demographically similar to them?

Full SEAL students, who received the full intervention from preschool, were compared to the Partial SEAL students, who received the same intervention in elementary school but did not participate in preschool and may have had less elementary experience with SEAL as well (only one or two years instead of three or four years). **One of the most significant results is the significant advantage of Full over Partial SEAL students. In assessments in second and third grades, Full SEAL scores were significantly higher than Partial SEAL scores in most assessments – LAS, most CELDT subscale and total scores, CST reading/language arts and math scores, and STS reading/language arts and math scores.**

SEAL children's scores in the various assessment instruments (DRDP, CELDT, CST, STS) were compared to various other groups, including district and state averages to determine whether SEAL students were showing lower, similar, or higher performance growth on the assessments. In comparisons of the SEAL test scores to district and state averages, for the most part, SEAL, especially Full SEAL, scores were comparable to or higher than district and state averages. This was true at the preschool level on the DRDP in language, literacy and math; on the CELDT with comparisons to district and state peers (by third and fourth grades); on the CST and STS, where Full and sometimes Partial, SEAL students scored comparable to or higher than district and state peers in reading/language arts and math.

3. Are there similarities and differences in the level of performance and growth among SEAL participants in terms of:
- **School sites**
- **Cohorts**

Collectively, these data show that the SEAL students were at least as strong, and in many cases, a little stronger and in other cases a little weaker, in the areas of language, literacy, and mathematics compared to their peers. They were making excellent progress in Spanish while continuing to make gains in English. Their progress appeared to be as great or greater than comparison groups in all three areas of language, literacy, and math.

In each of the assessments, there was considerable variation across the school sites. Thus, there was no "standard" level of outcome or growth, but there was significant growth at all sites, though there were differences in the starting and ending points. This was true for all the language and literacy measures and math.

Finally, in looking at Cohort differences, there was no cohort that was stronger or weaker than others, and each cohort was at least stronger in some area under assessment. This means that the findings are more generalizable to other students, since the findings are not based on particularly strong or weak cohorts of students.

Are there similarities and differences in the level of performance and growth among SEAL participants in terms of:

- **Language of instruction (bilingual vs. English/SEI)**
- **Student language proficiency**

Student outcomes were also examined according to whether they were receiving instruction through an English/SEI or a Bilingual program. Overall, children who were instructed in English and those instructed in Bilingual programs began at low levels on each measure and made significant growth. In first and second grades, students enrolled in English/SEI programs tended to score higher than students enrolled in Bilingual programs. However, by third an fourth grades, students receiving Bilingual instruction scored as well or higher than students instructed through English. This advantage was particularly evident on the California Standards Test for mathematics. The strength of these results were a little surprising given that research studies on English Learners in elementary programs typically show that it takes several years to demonstrate more positive outcomes for students in bilingual programs over those in English/SEI programs (Francis et al, 2006; Genesee, Lindholm-Leary, Saunders & Christian, 2006; Lindholm-Leary & Genesee, 2010; Lindholm-Leary & Hernandez, 2011).

Finally, Fluent Spanish speakers scored significantly higher than Limited Spanish speakers on the California English Language Development, the California Standards Test in both language arts and math, and the Standards Test in Spanish in both language arts and math. Results also show that stronger Spanish language proficiency scores are associated with higher CELDT, CST, and STS scores.

4. Are there differences in outcomes between SEAL students whose teachers have higher vs. lower levels of implementation of SEAL components by grades 2-3?

There was little evidence that a higher level of implementation of SEAL components is associated with higher outcomes, which may be due to the high percentage of teachers who were high in implementation. However, the only significant difference in student outcomes for teachers high vs. low in implementation was in the first grade CLEDT scores. On a few subtests of second-, third- and fourth-grade, low implementation teachers actually had students with a higher score than high implementation teachers. This is a complicated research issue in that as teachers become more highly trained, there are few teachers who are lower implementers and thus, this can no longer be examined.

5. What impact does parent engagement have on student outcomes?

Results also showed that a higher rate of parent engagement (e.g., participation at parent-teacher conferences, attendance at family workshops, and reading to their child more frequently) was associated with higher language proficiency and achievement scores, though this was not found for all grades , nor was it consistently found across all measures.

Summary

In summary, the results presented here demonstrate that the SEAL children entered preschool with very low levels of Spanish and English oral language, literacy, and mathematics development. Over the course of the year in the SEAL preschool, children made great gains in all areas and their developmental progress was fairly similar to that of other comparison groups. In addition, the children's language proficiency in Spanish was further developed in kindergarten through second grade for those receiving Bilingual instruction, and all students continued to make gains in English across the grade levels as well. Results are clear in demonstrating that by second and third grades, Full SEAL students are as strong or stronger in their language, literacy and mathematics skills in English and Spanish compared to the Partial SEAL children. Further, by second grade or third grade entry, results clearly show the benefit of Bilingual instruction in two ways: 1) students receiving Bilingual instruction scored higher than students receiving instruction through English in all three areas measured in English – language, literacy, and math; 2) students with stronger Spanish language proficiency significantly outperformed students with weaker Spanish language proficiency on assessments in both Spanish (STS) and English (CELDT, CST). These findings are consist with the research literature showing that children in Bilingual programs make gains that are as strong or stronger than their peers in English programs (Barnett, Yarosz, Thomas, & Blanco, 2007; Espinosa, 2009; Lindholm-Leary & Genesee, 2010).

It is important to remember that this study represents only one to four years of growth for children in the SEAL program. Research shows that the positive impacts of bilingualism and transfer of skills for children instructed through two languages do not demonstrate their full potential for several years. Yet, we still see the beginning signs of the advantages of primary language instruction and of a focus of language and literacy training in preschool on these children's greater preparation for kindergarten through third grade in the areas of language and literacy, particularly when we look at the positive impact of stronger Spanish on children's CELDT, CST, and STS scores.

Furthermore, the results of these studies may not appear as strong when we compare the SEAL children to other samples, even samples of Hispanic EL children because the SEAL sample includes a vast majority of children from homes with very low educational attainment on the part of their parents. Overall, 85% of children had parents with a High School diploma or less, and 91% of children from the lowest performing school. Thus, these results may reflect even greater progress on the part of the most needy at-risk Hispanic EL children.

Finally, there are currently few published reports of young EL children's language and literacy development. The study reported here will make a significant contribution to the research literature on the early development of academic language in young EL children. Further research with these SEAL cohorts and with additional SEAL cohorts will provide a much needed understanding of the language and literacy skill levels of children who enter school as English Learners, and especially in the interventions that can be successful with these children.

From the findings reported here after four years of SEAL implementation, it would appear that the SEAL model is effective in promoting stronger language, literacy, and mathematics skills in children's regardless of language of instruction, and the results are strongest for those students who had the preschool intervention (Full SEAL students). The results are also much stronger for those students who received bilingual instruction and became more proficient in Spanish.

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