PROGRAM REVIEW
INTERNATIONAL SCHOOLS/
DUAL LANGUAGE IMMERSION

FINAL REPORT

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Acknowledgments

Program Review Purpose and Scope

In accordance with Superintendent SMART Goal 3 and Policy 2090, the Board of Directors has asked that Seattle Public Schools undertake a systematic review of district programs and services. The goal of program review is to improve decision-making by deepening understanding of program design, implementation, results/outcomes, and cost/benefits. International Education/Dual-Language Immersion and Advanced Learning were both selected for review for the 2016-17 school year.

The program review for International Education includes three phases of work: 1) Descriptive Analysis; 2) Implementation Analysis; and 3) Outcomes/Impact Analysis. Phase 1 was delivered in June 2017; Phases 2 and 3 were delivered in fall 2017.

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DESCRIPTIVE ANALYSIS
JUNE 2017

Overview

The Phase I report, released in June 2017, provides background information on International Schools, as well as descriptive findings on school models, student enrollment, student performance, and principal feedback. This report includes the following components:

Report Roadmap

I.   Background on International Schools and Dual Language Immersion (DLI)
II. Descriptive Data
III. Program Logic Model
IV. Principal Interview Findings

I. Background on International Schools & Dual Language Immersion (DLI)

International Education in Seattle was an outgrowth of the late 1990s, reflecting the dual realities of globalization and the increasing number of students coming to school with home languages other than English. Seattle's first International School, John Stanford International Elementary School, opened in 2000 with a Spanish Language Immersion program in K-1. Japanese Language Immersion was added in 2001. Since that time, the model has been further refined, and the decision to offer Dual Language Immersion (DLI) took on greater urgency as a mechanism to increase academic achievement and eliminate opportunity gaps for English Language Learner (ELL) students and heritage language students (i.e. students whose families speak languages other than English in the home). In 2007, the district began to establish K-12 international pathways in the NW, SE and SW regions of the city, envisioning an international feeder pattern of two elementary schools to one middle school and one high school.

In May 2012, the School Board adopted School Board Policy No 277 International Education, which defines three unique characteristics of International Education in Seattle:

- **World Languages.** Teaching world languages in an immersion setting for grades K-5 in addition to world language classes and immersion language classes in District middle and high schools.

- **Global Perspective**. Examining and evaluating global issues, problems, and challenges; studying human differences and commonalities; analyzing economic, technological, social, linguistic, ecological connections between the U.S. and the World.

- **Cultural/Global Competency**. Global Competence Matrix: Investigate the World | Recognize Perspectives | Communicate Ideas | Take Action (Asia Society and CCSSO, 2011)

Based on these three characteristics and incorporating the 21st Century Skills in the Seattle School District Strategic Plan, the International Schools Leadership Team (ISLT) revised Seattle's International Education Model in 2015.

To ensure equity and sustainability of programming, the district established an International Schools/Dual Language Immersion Task Force. The role of the task force is to gather, analyze, review, and consider information and data and to prepare a report to the Superintendent of Schools regarding Seattle's International Schools and Dual Language Immersion programs. The Task Force issued its initial set of Recommendations in August 2016.
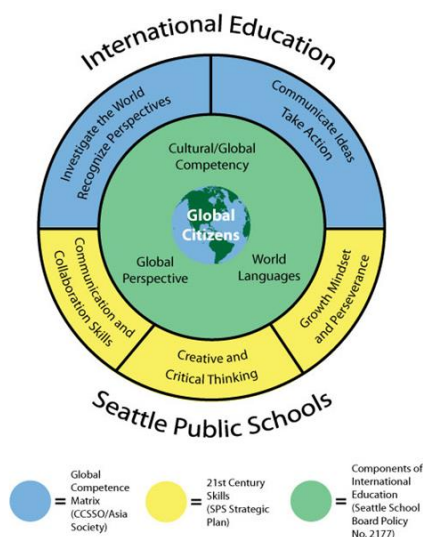
There are currently 10 international schools, located in three distinct regional pathways.

Table 1. Seattle Public Schools International Schools

International School	Year Designated	Languages offered*
Northwest Region		
John Stanford International School (K-5)	2000	DLI in Spanish, Japanese
McDonald International School (K-5)	2012	DLI in Spanish, Japanese
Hamilton International Middle School	2001	DLI and WL in Spanish, Japanese
Ingraham International High School	2013	WL in Spanish, Japanese, French
Southwest Region		
Concord International School (K-5)	2009	DLI in Spanish
Denny International Middle School	2009	DLI and WL in Spanish; WL in Mandarin
Chief Sealth International High School	2010	DLI and WL in Spanish; WL in Mandarin, Japanese
Southeast Region		
Beacon Hill International School (K-5)	2008	DLI in Spanish, Mandarin
Dearborn Park International School (K-5)	2014	DLI in Spanish, Mandarin
Mercer International Middle School	2014	DLI and WL in Spanish, Mandarin

*Middle and high schools offer Dual Language Immersion (DLI) continuation classes and World Language (WL) classes. International Baccalaureate (IB) classes in high school may also be offered as World Language or Dual Language Immersion.

II.   Descriptive Data

In this section of the report, we provide descriptive data of student enrollment and student performance for both DLI and non-DLI students. The findings highlight differences across international school pathways in the northwest, southeast, and southwest regions, as well as differences by the home language of the student, student English Language Learner (ELL) status, and student enrollment in DLI.

Note: Descriptive statistics provide useful summaries of data and are valuable tools in the inquiry process; however, these data should not be used to infer causal relationships or measure program effects. Phase 3 reporting will provide an in-depth look at DLI programmatic impact.

Student Enrollment (2016-17)

In 2016-17, Historically Underserved students represented 36% of students in International Schools, compared to 29% of students overall.

Figure 1. 2016-17 Composition of Students by Race/Ethnicity

	Intl Schools		All Schools	
	%	**N**	**%**	**N**
Black	14%	1,054	15%	8,251
Hispanic	21%	1,563	12%	6,535
Native American	1%	59	1%	344
Pacific Islander	1%	37	0%	208
Asian	19%	1,425	15%	7,819
White	37%	2,841	47%	25,013
Two or more	9%	652	10%	5,403
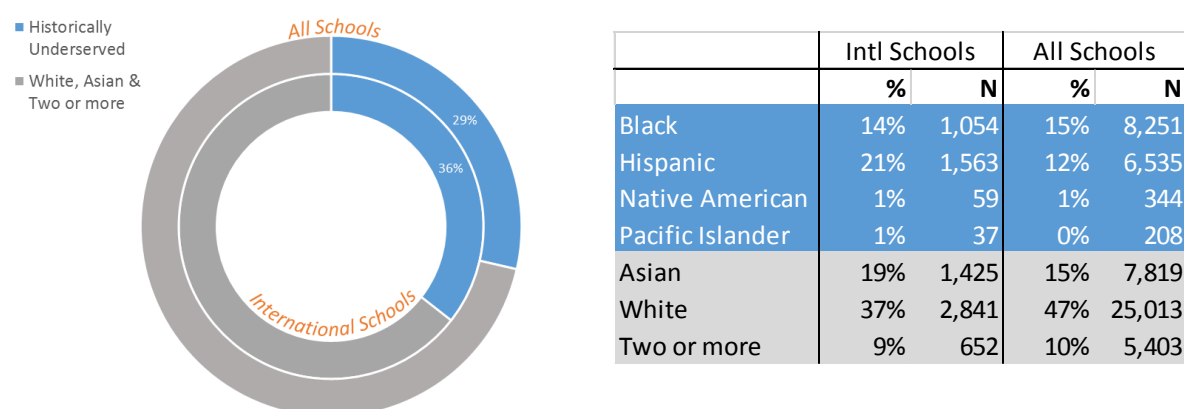
The distribution of Historically Underserved students in International Schools varies by pathway.

Figure 2. 2016-17 International Schools Race/Ethnicity Breakdown by School
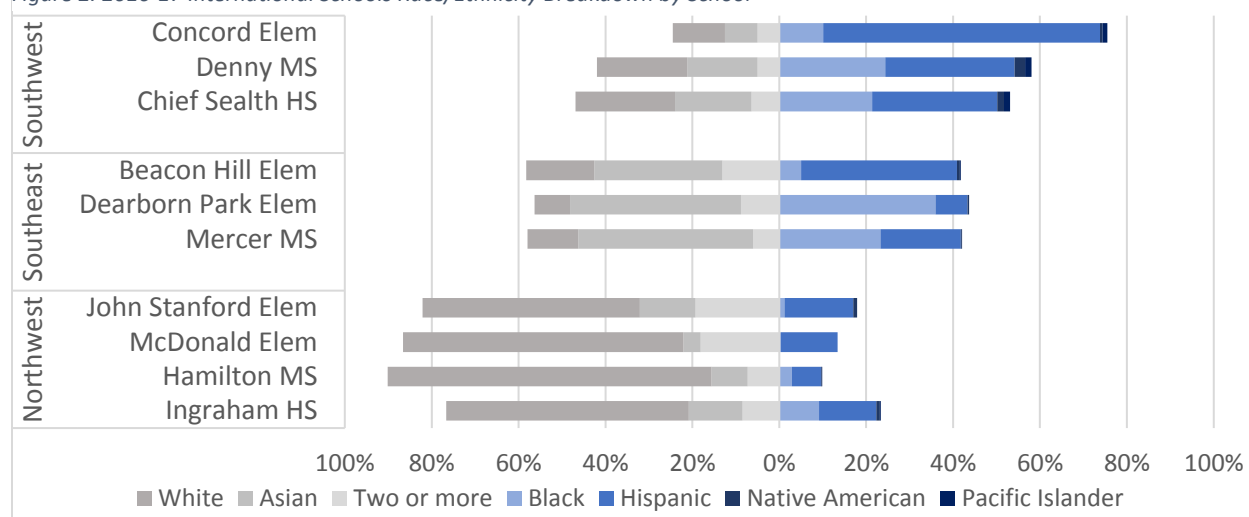
Compared to the district overall, International Schools have higher percentages of current and exited English Language Learner (ELL) students, and about the same percentage of students receiving Special Education services.

Figure 3. 2016-17 Composition of Students by ELL Status

Current ELL
Exited ELL
Never ELL

All Schools

International Schools

12%
15%
11%
18%

Figure 4. 2016-17 Composition of Students by Special Education

Special Education
Not Special Education

All Schools

International Schools

13.5%
12.9%
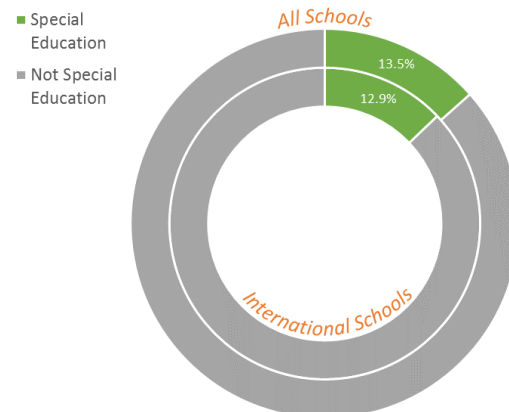
Within International Schools, Hispanic/Latino and white students together comprise 70% of DLI enrolled students (Figure 5). Of DLI students, 39% are current or exited ELL students (Figure 6).

Figure 5. DLI Enrollment by Race/Ethnicity

	Black	Hispanic	Asian	White	Two or more
DLI	5%	35%	13%	35%	12%
Not DLI	20%	15%	24%	32%	7%

DLI ■ Not DLI

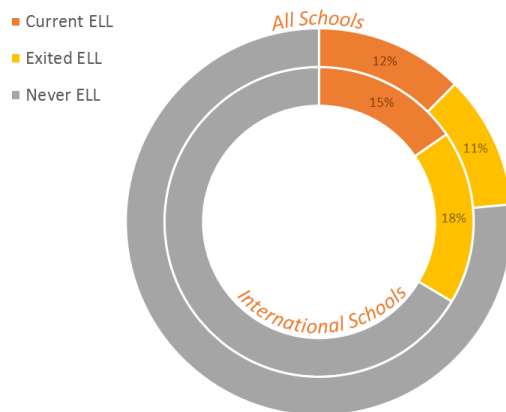Note: SPS does not currently have a data system flag for DLI students. We used a combination of methods, including STAMP test data from 2014 to 2016, enrollment in an immersion Language Arts course (middle schools only), and system links to teachers who have been identified as DLI by the school and/or Program Manager.

A core recommendation from the August 2016 International Education/Dual Language Immersion Task Force Report was to create a standard way to track DLI students in SPS student records.

Figure 6. DLI Enrollment by ELL Status

	Current ELL	Exited ELL	Never ELL
DLI	24%	15%	61%
Not DLI	14%	22%	64%

■ Current ELL ■ Exited ELL ■ Never ELL

Ingraham HS excluded from Figures 5 and 6 due to lack of DLI flags. Dearborn Park currently has all students in grades K-2 as DLI.

DLI students speak a variety of languages in the home. Across all international schools, Spanish immersion has the highest percentage of heritage speakers (41%), while nearly half of Mandarin immersion students speak another Asian language in the home and 14% of Japanese immersion students are heritage speakers.

Figure 7. 2016-17 Composition of Students by Heritage Language

Spanish Immersion

1,471 students

55% English
41% Spanish
4% Other

■ English ■ Spanish ■ Other

Mandarin Immersion

247 students

45% English
30% Cantonese
9% Toishanese
6% Vietnamese
10% Other

■ English ■ Cantonese
■ Toishanese ■ Vietnamese
■ Other

Japanese Immersion

420 students

80% English
14% Japanese
6% Other

■ English ■ Japanese ■ Other
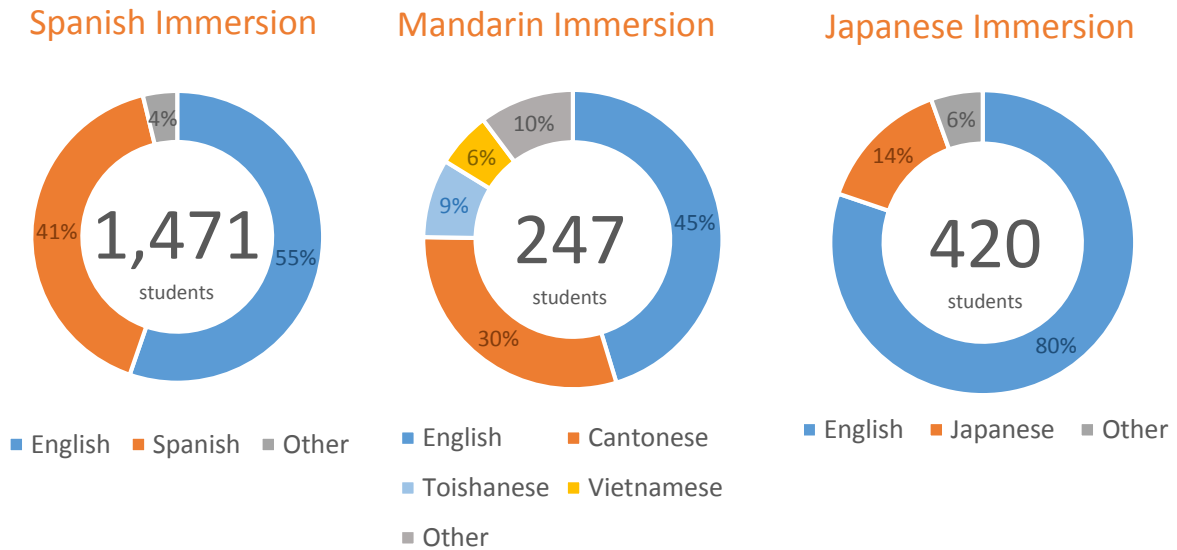
Compared to the district overall, International Schools have higher percentages of low income (FRL) students, although there is variation across the ten schools.

■ Low Income (FRL)
■ Not Low Income

All Schools

34.4%

42.6%

International Schools

Percent of Low Income (FRL) Students by School (DLI vs. Non-DLI)

School	DLI	non-DLI
Chief Sealth	86%	60%
Denny	85%	63%
Concord	77%	77%
Dearborn Park	68%	80%
Mercer	55%	65%
Beacon Hill	55%	72%
Hamilton	6%	8%
John Stanford	7%	
McDonald	3%	

■ DLI ■ non-DLI
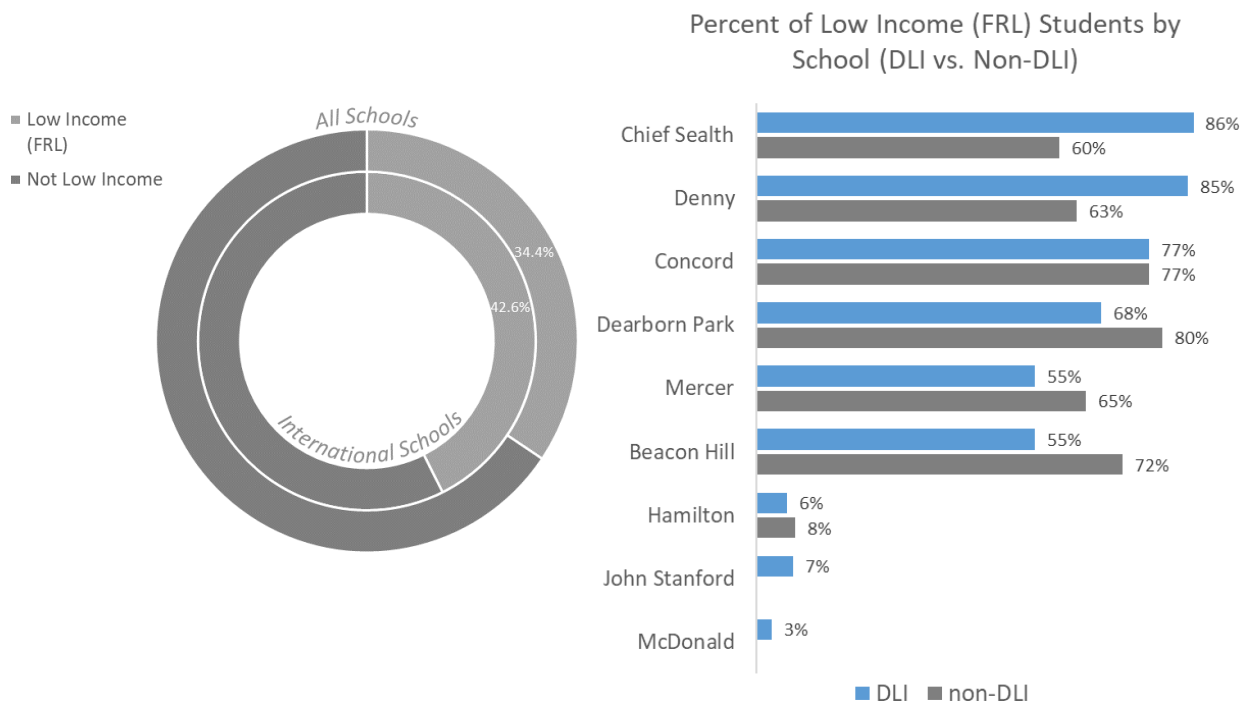
Note: Ingraham is excluded due to limitations with DLI flags.

Student Performance

International Schools' students have slightly higher rates of passing Smarter Balanced assessments when compared to the district averages. The largest difference is among Black students – 41% of students attending international schools are meeting standard, 6 percentage points higher than all schools average.
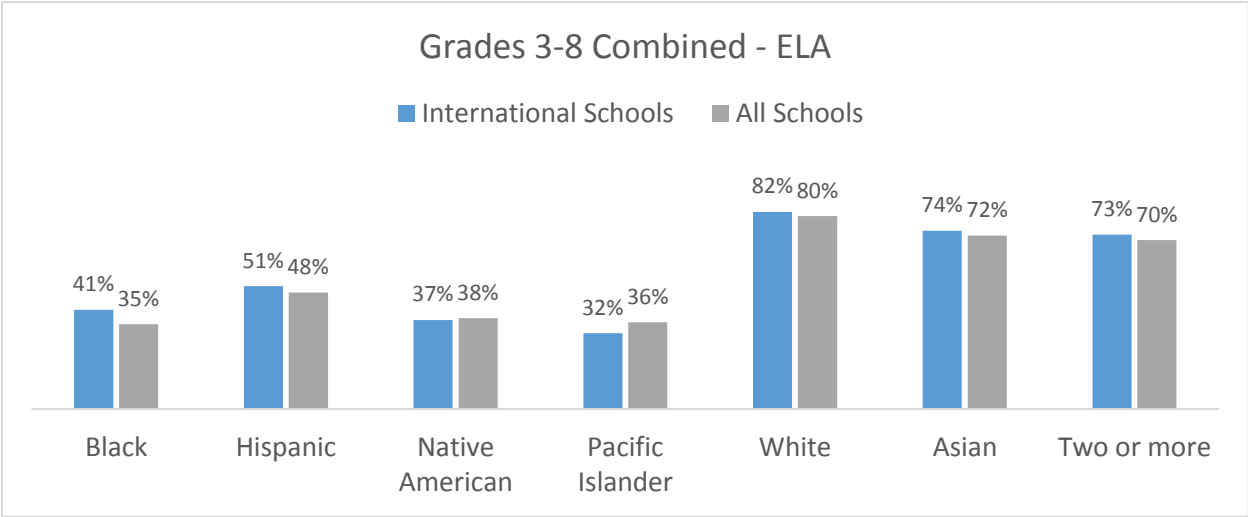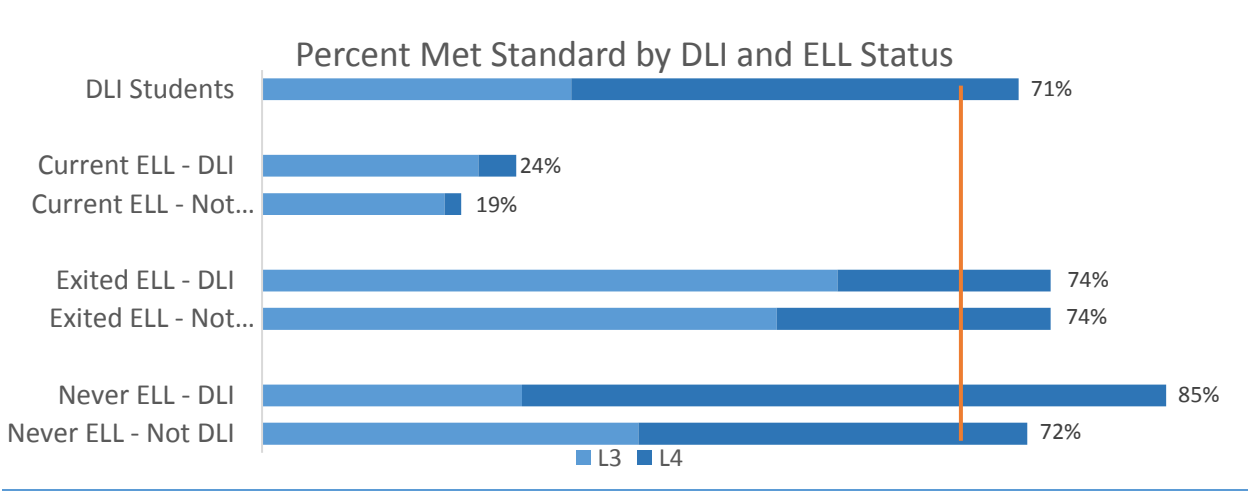
Figure 8. 2015-16 Smarter Balanced Results by Race/Ethnicity

Grades 3-8 Combined - ELA

■ International Schools   ■ All Schools

	Black	Hispanic	Native American	Pacific Islander	White	Asian	Two or more
International Schools	41%	51%	37%	32%	82%	74%	73%
All Schools	35%	48%	38%	36%	80%	72%	70%

Overall, 71% of Dual Language Immersion students met proficiency on the Smarter Balanced Assessments in ELA, which is above the district average. Proficiency rates (regardless of DLI enrollment) are even higher for exited ELL students, but lower for current ELL students.

Figure 9. 2015-16 Smarter Balanced Proficiency by DLI, ELL Status for International Schools

Percent Met Standard by DLI and ELL Status

	Percent
DLI Students	71%
Current ELL - DLI	24%
Current ELL - Not...	19%
Exited ELL - DLI	74%
Exited ELL - Not...	74%
Never ELL - DLI	85%
Never ELL - Not DLI	72%

■ L3   ■ L4

Note: Smarter Balanced assessments are summative assessments in ELA and Math and measure student learning and academic achievement at the end of the school year. They do not measure language acquisition skills or nonacademic skills. While these assessments are limited in what they can tell us about students, they are one of the most reliable sources of information when trying to isolate the academic effects of a particular program.

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Opportunity gaps persist in international schools between heritage language speakers and native English speakers. Future impact analysis for this study will be able to examine these relationships more closely, specifically the degree to which DLI is a "gap closing strategy" for certain groups of students.

Figure 10. 2015-16 Smarter Balanced Proficiency by Home Language

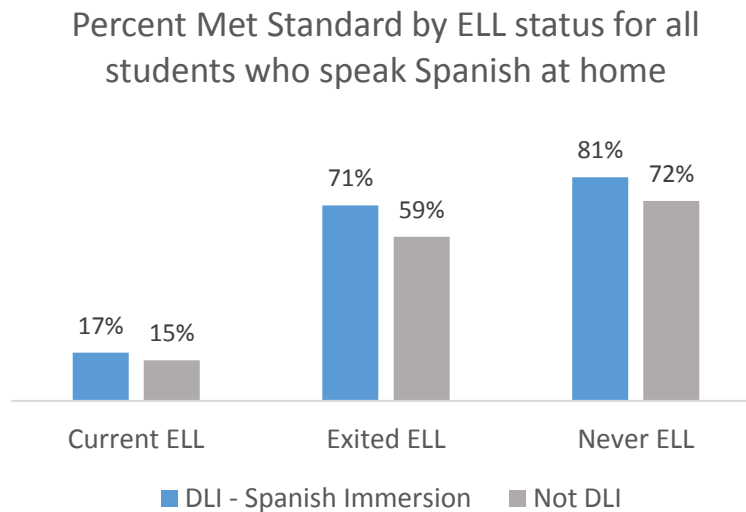**2015-16 Smarter Balanced ELA Percent Met Standard by Home Language**

— all home languages

Spanish 45%	English 84%	Toishanese 60%	Cantonese 70%	English 83%	Japanese 74%	English 89%
Spanish Immersion		Mandarin Immersion			Japanese Immersion	
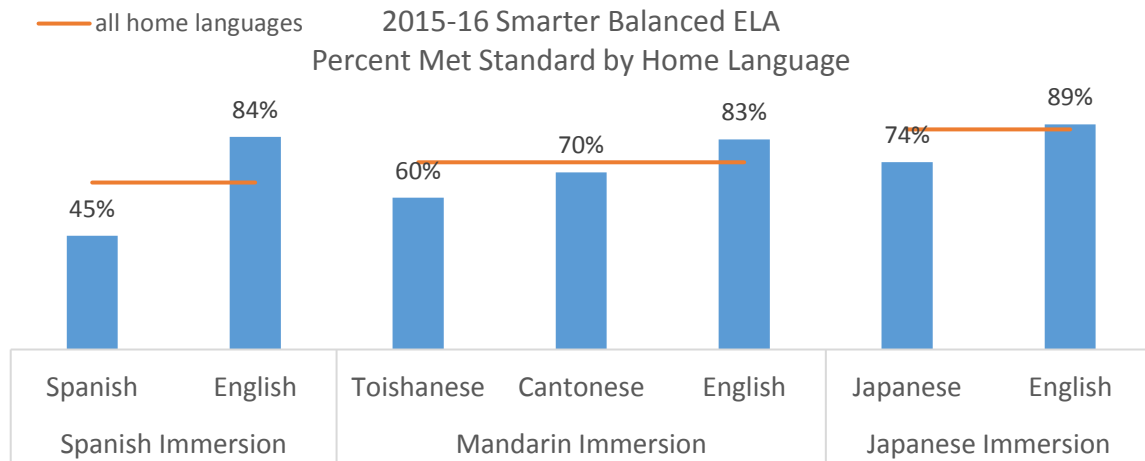
The descriptive data do suggest some areas of opportunity, however. For heritage Spanish speaker students, students enrolled in DLI had higher rates of proficiency on the Smarter Balanced Assessments than did their peers with similar backgrounds not enrolled in DLI. The differences were the most pronounced for students who were formerly English Language Learners.

Figure 11. 2015-16 Percent of Students Meeting Standard by ELL Status

Percent Met Standard by ELL status for all students who speak Spanish at home

	Current ELL	Exited ELL	Never ELL
DLI - Spanish Immersion	17%	71%	81%
Not DLI	15%	59%	72%

■ DLI - Spanish Immersion   ■ Not DLI

III.   Program Logic Model

To guide our program review, we first set out to describe the intended purpose of International Education and Dual Language Immersion. The logic model (Figure 12 below) follows best practice from the Kellogg Foundation (1998) by spelling out the available inputs, planned activities, intended outcomes, and intended impact of enrollment in an international school in general and a dual language immersion program in particular.

Figure 12. Logic Model for International Education/Dual Language Immersion
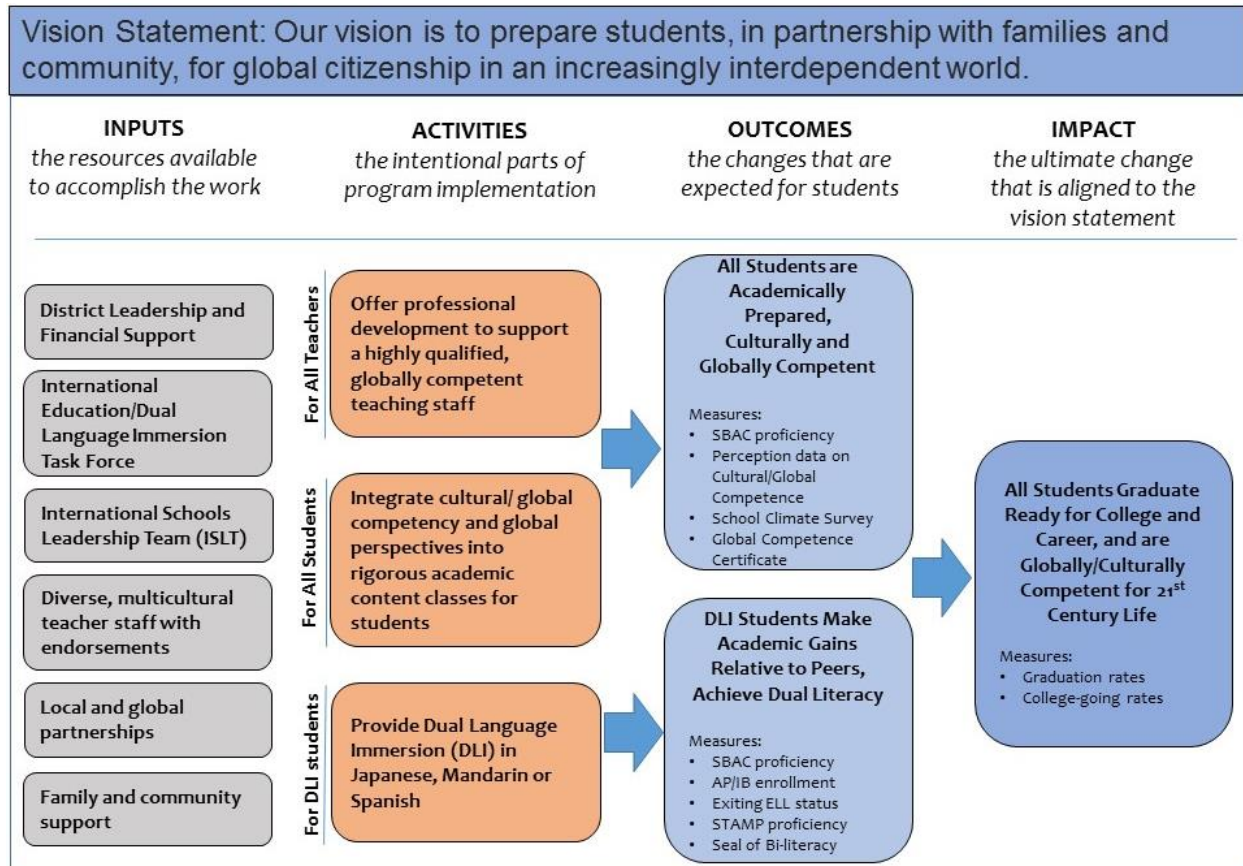
As shown above, International Schools rely on a number of key supports from the central office, schools and staff, partners, and families. These inputs provide the basis on which international schools provide their core service delivery, namely professional development for teachers and academic content for students infused with cultural and global competency instruction. Students enrolled in Dual Language Immersion also receive language in an immersion setting in Japanese, Mandarin or Spanish.

The ultimate goal of this program review is to determine the degree to which these activities are faithfully delivered in an efficient, comprehensive, and cost effective manner, as well as the degree to which these inputs and activities are leading to the two identified outcomes of interest – academic preparedness and cultural/global competency.

IV.   International School Principal Interviews

In spring 2017, the Research & Evaluation team (Dr. Eric Anderson and Dr. Jessica K. Beaver) interviewed all ten principals of international schools. Question topics included:

- The school's mission and vision as an international school;
- The implementation of cultural and global competency;
- DLI implementation, successes, and challenges;
- Teacher recruitment and professional development; and
- District and community resources and supports

Below are some of the key themes that emerged from these ten principal interviews.

Key Finding 1: Despite the creation of an SPS "International Education Model" (Figure 1), principals identified different goals based on the population of students they serve.

At a high level, all 10 principals have a shared understanding that dual literacy and bilingualism helps prepare students for college, career, and life. Nearly all principals would like Seattle Public Schools to invest more broadly in dual literacy for students. At a deeper level, however, principals identified vastly different goals for international education based on the population of students they serve.

> I believe Seattle should take a stand and say, "Everyone's going be bi-literate."
>
> International School Principal

Northwest Pathway: Principals in the Northwest pathway mentioned benefits such as teaching grit and perseverance, providing exposure and access to multiculturalism, preparing students for advanced courses, and positive branding for the school. Said one principal: *"If you look at research about grit and perseverance…you see that learning a second language teaches you to stick with things that are hard."*

Southeast and Southwest Pathways: Meanwhile, principals in the Southeast and Southwest pathways cautioned that their programs are not "boutique," but rather are the means to establishing an inclusive, culturally responsive learning experience that closes academic achievement gaps for historically underserved students, including ELL, heritage language speakers, and students of color. Said one principal: *'[Attending an international school] is very culturally affirming and that's super important. So, greater connection to school, better attendance, better performance. Many factors all fit in."*

Principal Recommendations: Recognizing the vast differences in International Schools across the district, principals said that they would like more opportunities to learn about best practices in DLI implementation and collaborate with colleagues both within and across pathways.

Note: As part of this program review, the International Education office has established a DLI Implementation Checklist for principals to use in their schools to examine school practices through the lens of national best practices.

Key Finding 2: Principals believe that Dual Language Immersion is what sets their school apart. "Cultural and global competence," meanwhile, should be a universal goal in all schools.

Despite the specific definition of "Cultural and Global Competence" in official program documents, nearly all international school principals reported that, in practice, these definitions are essentially equivalent to the universal SPS goal of inclusive, culturally responsive instruction for students from diverse backgrounds and communities. With this framing in mind, principals articulated concrete activities that they do in the service of these goals, noting that implementation varies depending on teacher initiative, interest, and experience. Activity types are listed in Table 2 below.

> Every kid should have learning content that's relevant, that allows them to have the skills necessary to have global competence. But that's just best educational practices that we need to prepare kids for. So every school should be international.
>
> International School Principal

Table 2. Approaches to Integrating Cultural and Global Competency School-wide.

Activity	Examples	Quotes
Integrating global issues into core curriculum	• Schoolwide themes • Examining local dynamics, stories, experiences	*"You will see in classrooms all the time, pieces of international education. For example, if they're learning about food scarcity, they'll learn about what does it look like in our own community? What does it look like in the state? What does it look like in our country? Then, what does it look like around the world?"*
Elective classes and extracurriculars	• Elective classes in global leadership • International arts, music, dance classes	*"For world water week, the kid leaders [on the Global Leadership Team] presented to classrooms. They helped the teachers plan an integrated unit based on the international school themes."*
Teacher-led professional development	• PD from International Schools Leadership Team (ISLT) members • Dedicated staff time for training and PD	*"[Our ISLT teacher] sends out newsletters and opportunities for people to get involved; he has also done a lot of professional development for our staff on how to infuse [cultural and global competency] into their everyday instruction."*

A key resource mentioned above is the International Schools Leadership Team. ISLT team members were particularly active in over half of the ten schools, with designated staff members dedicating staff time to developing school themes, leading professional development, coaching colleagues, and running global leadership activities for students.

Principal Recommendations: Six of the 10 principals recommended that the district concentrate efforts and resources on implementing DLI and then create common districtwide expectations for ALL schools around cultural/global competence. In doing so, International Schools can be viewed as exemplars who can share best practices and lessons learned with educators in other schools.

Key Finding 3: Principals in the SE and SW pathways firmly believe that DLI is a gap eliminating strategy for their schools.

Principals throughout the Southeast and Southwest pathways stated that DLI is a core strategy at their school for eliminating opportunity gaps for historically underserved students, but in particular for students who are English Language Learners (ELLs) – including, but not limited to, heritage speakers of the partner language. DLI, they say, helps ELL students:

- ✓ Feel recognized and appreciated for their culture and language
- ✓ Make quicker gains in comprehension, fluency, reading, and writing, and then translate those gains to learning English
- ✓ Feel a greater connection to their families and community
- ✓ Gain college-level credits through advanced course-taking in high school

"We do dual language because it's by far the best approach for ELLs, period. And all the national research supports it. I think Seattle public schools should embrace dual language as a gap eliminating strategy, because it clearly is one, and I think we should do it across the board. We should have a goal of helping to support all children to graduate bilingual and bi literate. And be bold about that."

"DLI is important for the native speakers because it gives them an entry point and it increases comprehension right away. I think it definitely is a gap-closing strategy."

"See, with the dual language program, all students can be taking the IB Spanish by the time they're in high school. For our students here…to know that in high school they have 10 college credits is huge. They're the first in their family to go to college."

International School Principals

Principal Recommendations: Although two principals have begun to look at attendance and behavioral data as evidence of gap eliminating success, all SE and SW pathway principals noted that they need better data analysis and reporting from the district to draw firmer conclusions about DLI as a gap eliminating strategy. Said one principal: *"That's part of our challenge. I can't easily produce my own data packet that is more isolating of the impact of dual language. I don't have the time or expertise to that level of analysis."*

Note: Phase 2 reporting for this program review will include targeted, in-depth study of the impact of DLI as a gap eliminating strategy.

Key Finding 4: Principals identified three common challenges in successfully implementing DLI.

Principals noted several common challenges in implementing DLI successfully in their schools: recruiting and placing high quality staff; developing high quality, aligned curriculum in partner languages; and sequencing content for immersion in elementary school.

Common Challenges in DLI Implementation

1. Recruiting and placing staff
2. Providing high quality, aligned curriculum
3. Sequencing DLI content

1. Recruiting and Placing High Quality Staff

Principals noted difficulty in recruiting teachers to teach in the DLI track given the highly specialized skill set necessary to teach content in a partner language. As one principal explained, "It is an extraordinary amount of work for the teacher… there's an enormous amount of translation and preparation." Another principal mentioned that she is constantly recruiting for DLI teachers, knowing that these positions are difficult to fill. Once hired, another challenge principals mentioned is placing staff to allow for factors such as last minute enrollment changes, student attrition in DLI programs, and overall instructional load. Principals at all 10 schools noted that staffing DLI is an exceptionally difficult task, which often requires many hours of principals' time throughout the year and necessitates last minute changes to class assignments and staff roles.

Principal Recommendations: Nearly all international school principals noted that they had used staffing mitigation allowances (either currently or in the past) to adequately staff their school. Four of the ten principals said they would like the district to rethink the way staff are allocated for international schools by taking into account the unique nature of the DLI track – for example accounting for attrition from upper elementary grades (since elementary students have to demonstrate language proficiency to access DLI classes after first grade), recognizing the need for Instructional Assistants or Interns, and understanding the inflexibility that principals have in teacher reassignments.

2. Curriculum Development

Although in some cases, schools can translate existing curriculum materials into the partner language (Spanish, Mandarin, or Japanese), the vast majority of the curriculum development work is shouldered by the DLI teachers themselves. Principals almost universally said that this was an enormous burden for teachers, requiring teachers to search for standards-aligned materials, translate resources into the partner language, and then ensure that materials are "authentic" (i.e. culturally relevant to the partner language).

> A major need would be more authentic texts that really support our mission and vision. Right now, the teachers just search and find.
>
> International School Principal

Principal Recommendations: International School principals would like the district to consult with them prior to curriculum adoption efforts to ensure that materials can be provided in partner languages. If curriculum materials are not available in Spanish, Mandarin, or Japanese, they would like the district to negotiate access with publishers to allow teachers to directly translate materials. In the absence of specific aligned district curriculum, principals noted that they

would value more opportunities to provide DLI teachers with best practices in curriculum development, for example through district-led professional development, local and national conferences, and collaboration with or visits to other DLI schools.

3.   Aligning Scope & Sequence of Content.

Finally, elementary school principals mentioned the difficulty in sequencing coursework so that students experience both English and the partner language in a progression that supports both language and content acquisition. Principals are continually making changes in sequencing content taught in the partner language versus English, mainly to ensure proficiency in student scores on state assessments, which start in third grade. The five elementary schools do not have aligned sequencing at this time – for example, some schools teach math in the partner language starting in Kindergarten, whereas others have opted to introduce in later grades.

> We've got to teach students the fundamentals and the basic language and the sentence structures. So we're going to make a switch [in our sequencing]. But we're just kind of taking a stab in the dark that that's going to have impact.
>
> International School Principal

Principal Recommendations: Similar to the recommendations above about providing teachers access to DLI curriculum development, principals said that they themselves would benefit from additional opportunities to learn from others both within and outside the district about best practices in sequencing DLI coursework.

Summary

In general, international school principals place a high value on the dual language immersion component of their school, and believe that the elements of "cultural and global competency" can and should be common across all schools in the district. Although they appreciate the support from the International Education office, they would generally like to see greater district guidance and support for providing access and opportunities to best practices both within and outside of the district, particularly with regard to the implementation of Dual Language Immersion. Additionally, they believe that the district needs to clarify its stance on the direction for international schools, including how it will build out and fully articulate pathways, as well as what resources they will provide for curriculum development and staffing. As one principal stated, "Seattle has to decide whether or not they believe in the importance of immersion. And if they do, how are they going to grow immersion programs across the district and what does that look like? And if they don't then just be straight forward about that."

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>
> International School Principal

IMPLEMENTATION ANALYSIS
FALL 2017

Overview

The Phase I report, released in June 2017, provided background information on International Schools, as well as descriptive findings on school models, student enrollment, student performance, and principal feedback. The Phase 2 report (Implementation Analysis) delves deeper into program implementation, examining self-reported perceptions of implementation and presenting a descriptive analysis of programmatic costs.

The Implementation Analysis includes the following components:

Implementation Analysis Roadmap

    I.   National and Statewide Implementation Context
  II.   Data Sources
 III.   Implementation Findings
       o Setting a Common Vision for International Schools
       o Cultural and Global Competence
       o Dual Language Immersion
 IV.   Cost Summary

I.   National and Statewide Implementation Context

To understand the implementation of International Education and Dual Language Immersion in the Seattle Public Schools, it is helpful to first provide the national and statewide context for this increasingly popular educational model. The national interest in international education and Dual Language Immersion in particular has grown steadily since the Asia Society published its seminal report "Asia in the Schools" in 2001 (Asia Society, 2001). At that time, the U.S. Department of Education

estimated that there were 260 dual-language programs operating in the country and called for an increase to 1,000 by 2005 (Harvard Graduate School of Education, 2011). The number has continued to climb. A recent government report cited that "a majority of states in the United States reported that, during the 2012–13 school year, districts in their state were implementing at least one dual language program, with Spanish and Chinese the most commonly reported partner languages" (U.S. Department of Education, 2015, p. 30).

Washington State has traditionally been at the forefront of the movement to expand international education and dual language immersion. The same federal report cited above found that Washington State was one of seven states nationwide that has published explicit statements that dual language immersion and bilingual programs is a state priority (U.S. Department of Education, 2015). Washington State was also an early adopter of the movement to recognize students' achievement of biliteracy through the Seal of Biliteracy.[1] In terms of the prevalence of DLI programs statewide, a 2014 survey administered by the Office of Superintendent of Public Instruction (OSPI) and the University of Washington revealed that dual language programs are in place at 24 districts statewide (approximately 8% of the state total), totaling 66 school sites (Mapping & Enhancing Language Learning, 2014).

A new development in Washington State could lead to changes in priorities around one aspect of International/Global Education and Global Competence, namely the teaching and learning of world languages in our schools. In 2017, the state legislature enacted a two-credit world language requirement for high school graduation to go into effect with the class of 2019.[2] However, the Legislature has not yet followed that action with financial investment in expanding world language opportunities in the state. Recently elected OSPI Superintendent Chris Reykdal, however, has made language learning a part of his vision for schooling in the state, asserting, "we should be the first state in the country to have a universal second-language framework" and that second-language learning should begin in Kindergarten (Seattle Times, May 24, 2017).

II.   Data Sources

Our program review examines the implementation of this increasingly popular education model in the context of the ten international schools in SPS. Our analyses highlight data from three main sources:

 In-depth qualitative *site visits at five International Schools*, including focus groups with students and teachers. The five site visit schools included schools in all three pathways, partner languages offered, and levels of school (elementary, middle, high). They include:

➢ McDonald International Elementary School
➢ Beacon Hill International Elementary School
➢ Mercer International Middle School
➢ Concord International Elementary School
➢ Chief Sealth International High School

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[1] Adopted on March 27, 2014 through RCW 28A.300.575. Currently 28 states have officially approved a Seal of Biliteracy and other states continue to work toward this goal through legislative action. For more information, see:
http://www.k12.wa.us/WorldLanguages/SealofBiliteracy.aspx and http://sealofbiliteracy.org/
[2] Some districts, including Seattle Public Schools, applied for and received a waiver until the class of 2021.

Responses on a *survey of teachers* administered to over 500 teachers[3] in the district teaching at International Schools. The survey (response rate: approximately 45%, n=216) contained questions for all teachers with a supplement for DLI teachers that included measures of DLI implementation fidelity. The tables below detail responses by school and by respondent type.

Table 3. Teacher survey responses by school

International School	Teacher Respondents
Northwest Region	
John Stanford International School (K-5)	13
McDonald International School (K-5)	25
Hamilton International Middle School	36
Ingraham International High School	13
Southwest Region	
Concord International School (K-5)	19
Denny International Middle School	16
Chief Sealth International High School	38
Southeast Region	
Beacon Hill International School (K-5)	14
Dearborn Park International School (K-5)	14
Mercer International Middle School	28
TOTAL	**216**

Table 4. Teacher survey responses by respondent type

Teacher Type	DLI	Non-DLI	TOTAL
Classroom Teacher	33	126	159
Instructional Assistant	3	12	15
Other staff (e.g. ELL teacher, SPED teacher, Librarian, Counselor)	-	39	39
Blank		3	3
TOTAL			**216**

Summary of district *budget data* pertaining to International School program allocations, grants, and staffing mitigation funding.

Analysis of data from these three sources allows for a rich examination of implementation practices across the 10 International Schools, with special attention to five site visit schools. Qualitative data were recorded and transcribed, and then were coded in Dedoose analytic software. Survey data and budget data were analyzed in Excel.

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[3] Number of surveys administered is approximated, as principals were asked to forward survey link to their staff, including Instructional Assistants and other staff.

III.   Implementation Findings

Setting a Common Vision for International Schools in Seattle Public Schools

This first set of findings details what teaching and learning in an International School means to a broad set of respondents, including principals, teachers, students, and parents. The findings below address the following questions:

1. **What are the perceived benefits of working and learning in International Schools?**
2. **What do stakeholders see as the district's vision for International Schools?**
3. **What is the role of the community in engaging with this vision?**

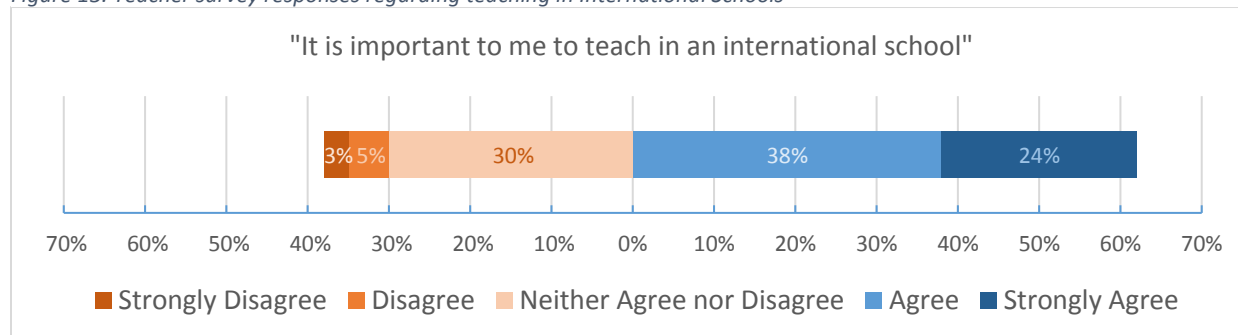## What are the perceived benefits of working and learning in International Schools?

Teachers across all five site visits schools, including both DLI teachers and English-track teachers, reported that the ideals of international education and dual language immersion (see Page 2) is an important part of why they choose to work in their school. For some teachers, the opportunity to teach in an International School played an important role in initial recruitment. Other teachers were already at their school prior to the change to International School status, and noted that the change furthered their personal approach to teaching values of multiculturalism and biliteracy.

> *I was really drawn to the idea that school can be a place where we investigate, and we learn from different perspectives, and we practice empathy, and we look at the world from all different kinds of viewpoints. That was always the kind of school that I believed in, and that I think should be out there. – Teacher*

DLI teachers in SE and SW pathway schools also mentioned another reason why they came to the school, namely to close academic opportunity gaps for heritage language speakers. Explained one teacher: *"It was kind of exciting to be part of a program that had that potential to be a gap-closing sort of strategy."*

The Teacher Survey presented an additional opportunity to probe on teacher motivations. Our survey found that 62% of teacher respondents (n=221) agreed or strongly agreed with the statement "It is important to me to teach in an international school." Not surprisingly, the percentage is higher for Dual Language Immersion teachers, with 78% (n=37) in agreement with the statement.

Figure 13. Teacher survey responses regarding teaching in International Schools

"It is important to me to teach in an international school"

| 3% | 5% | 30% | 38% | 24% |

70% 60% 50% 40% 30% 20% 10% 0% 10% 20% 30% 40% 50% 60% 70%

■ Strongly Disagree ■ Disagree ■ Neither Agree nor Disagree ■ Agree ■ Strongly Agree

When given the opportunity to clarify their answer in an open-ended response, the majority of teachers' comments asserted the importance of teaching students the values of cultural and global competence and the skills associated with biliteracy.

> *Language immersion is a way to support students in maintaining and enhancing their primary language and a way to build cultural understanding and respect in future generations. - Teacher*

Some teachers, however, said they did not feel that being an International School made a measurable difference in their teaching, or that the International School model itself was unclear. Said one teacher: *"I have an appreciation for the International School distinction, but I don't feel that it has a huge impact on how I teach."*

For their part, students reported that they value biliteracy in a general sense, but said the true thing that sets their school apart as an International School is the opportunity to learn alongside students from different race/ethnicities, cultural backgrounds, religions, and viewpoints.

> *[Being in an International School means] being surrounding by people who come from different backgrounds, have different identities, have different cultures. And you're able to share those things without feeling like you're going to be judged for it. You're listened to and you feel accepted by everybody. – Student*

> *I think going to an International School means that you get to see how other kinds of people besides yourself and the people who live around you act and live their lives, instead of just your own. – Student*

What do stakeholders see as the district's vision for International Schools?

Teachers across the five site visit schools said that they felt the district lacked a cohesive vision of what it means to be an International School. District leaders, they said, must articulate how they envision International Schools fitting into the larger district portfolio of schools, and then support that vision with ongoing funding. It is not enough, they said, to provide start-up funding for professional development without providing continual ongoing training and curriculum support. Teachers also mentioned that the district should recognize that staffing models for DLI differ from those of traditional schools.

In an open-ended response question on the Teacher Survey, we asked teachers to share any general reflections about teaching in an international school. Their responses highlighted the importance of district support – both financial and symbolic – for a fully articulated vision of international education.

> *If the district is going to have international schools, they need to take the time to actually plan what they want international schools to look like, especially as far as curriculum -- scope and sequence -- and to provide the necessary resources -- staffing AND materials (textbooks and literature, videos, etc.) within the target languages. – Teacher*

> *I don't know if the district has a clear plan about the international schools that teachers, students, and families can understand. We have very strong support from our community, and students and families are very enthusiastic about the international schools. I am concerned that there seems to be a huge temperature difference between the district and international school community. – Teacher*

It would be a huge mistake to dismantle the International Schools program. Families that would otherwise send their kids to private school, Spectrum or HCC intentionally send them to our school because of the richness and rigor that our school provides. We also do an amazing job of meeting the needs of our immigrant students and families. – Teacher

These findings echo similar sentiment from principals (see pages 12-13), who expressed that the district needs to clarify its intentions with regard to the future of International Schools and acknowledge that International School staffing and funding models differ from those of general education schools. Unlike principals, however, teachers at site visit schools further clarified that district-level vision must be coupled with a school-level vision for international education that is co-constructed with school staff. Four of the five site visit schools had active members on the district's International School Leadership Team (ISLT), which they believed to be a core mechanism for supporting districtwide efforts to share information across the ten International Schools. Teachers in the fifth school were unable to send teachers to the ISLT in the 2016-17 academic year, but said they generally valued having an ISLT presence in their school.

What is the role of the community in engaging with and enacting this vision?
Although respondents across all five site visit schools noted that their parent community is supportive of the school and values International Education, they reported differences in the levels of day-to-day involvement of parents.

In the northwest pathway school we visited, for example, teachers and students said that parents are highly involved members of the school. Parents come into the classroom to co-teach lessons, actively fundraise for extra school staff for the school, lead class field trips (including to other countries), and provide housing for temporary school staff (interns). Parents, in other words, are a constant presence in the school. For their part, teachers and the school principal both said that they view parents as partners and have a mutually respectful, productive relationship with the PTA.

In the southeast and southwest pathways, parents are less involved in the day-to-day operations of the school. Although they attend school evening events geared toward international or multicultural themes, and may serve on the PTA, they rarely are in classrooms. Teachers note that the difference is largely because of parents' work schedules, although some teachers at one school also raised concerns that parents of lower-income and marginalized communities (for example, undocumented individuals) may feel uncomfortable advocating for their child's school. In our parent focus group, parents expressed that their overall lower levels of day-to-day involvement do not reflect a lower commitment to the school. Said one parent (translated from Spanish): *"It is a big privilege for our children to be here."*

Cultural and Global Competence Findings
This set of findings examines the meaning of "cultural and global competence" and provides examples of these practices in action. Findings address the following questions:

1. **How do teachers, students, and parents define "cultural and global competence"?**
2. **What does cultural and global competence integration look like in practice?**
3. **What resources and supports do teachers need to successfully integrate these principles in their schools?**

How do teachers, students, and parents define "cultural and global competence"?

The district's official definition of global competence is adopted from national guidelines (Asia Society and CCSSO, 2011) and includes four key components or "domains."

> **Cultural and Global Competence (SPS Board Policy No. 277)**
>
> 1. Investigate the World
> 2. Recognize Perspectives
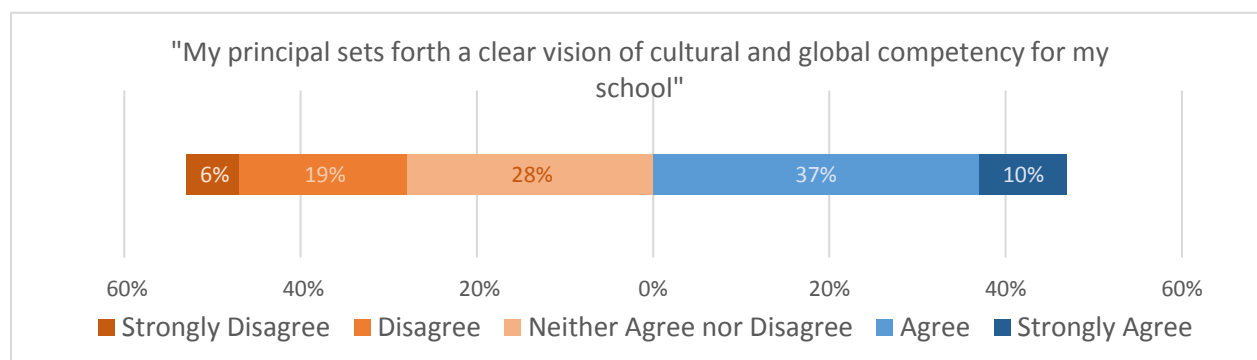> 3. Communicate Ideas
> 4. Take Action

When asked to define international education in practice, teachers were mostly aware of the official district definition – and quite a few had the International Education model (see page 2) hanging in their classrooms. However, when asked about how this definition influenced their instructional practice, teachers across the five site visit schools emphasized that "cultural and global competence" is just good teaching and can build on teachers' current practice. Said one teacher: *"It just is great teaching and learning. It's what we all want to be doing, and I think putting a name on it is helpful."*

This finding is similar to assertions from principals, who recommended that the district adopt elements of International Schools' definitions of cultural and global competence and make them universal districtwide (see page 10). Teachers said they infused global perspectives into their day-to-day lessons to prepare their students to be effective citizens in a multicultural society. Teachers across three of the five schools said that they were already incorporating aspects of cultural and global competence before their school became an International School, but that naming the practice and having a model to reference (see page 2) increased their confidence to implement cultural and global ideas and concepts.

Findings from the teacher survey, however, shed light on additional work at the leadership level that must be done to set a vision "culture and global competence" for each individual school.

Figure 14. Teacher survey responses regarding leadership for cultural and global competency

"My principal sets forth a clear vision of cultural and global competency for my school"

| 6% | 19% | 28% | 37% | 10% |

60% 40% 20% 0% 20% 40% 60%

■ Strongly Disagree ■ Disagree ■ Neither Agree nor Disagree ■ Agree ■ Strongly Agree

While about half of respondents (n=221) agreed that their principal sets a clear vision of cultural and global competence, 25% of respondents disagreed or strongly disagreed with the statement. This finding suggests that, just as teachers want a clearer vision for International Schools from both their district and their school leaders, they also want additional school-level guidance on implementing cultural and global competence practices in their school.

What does cultural and global competence integration look like in practice?

For students to develop cultural and global competency, teachers say that concepts must be fully integrated into every fiber of the school, for example through classroom lessons, displayed work in classrooms and hallways, extra-curricular activities and events, and community partnerships. Successful implementation, teachers caution, is not a checklist of holidays and celebrations, nor is it limited to isolated units on global topics in social studies classrooms. Rather, it is a consistent effort schoolwide to push students to think about how they and their communities are situated in a global context, and what they might do to bring about positive change, both locally and globally. Below are examples – one from each of the site visit schools – of researchers' observations of meaningful cultural and global competence integration.

Example A: Unit on Food Security at McDonald International Elementary School

The third graders on the Spanish immersion side at McDonald Elementary did a grade level project on food insecurity. Individuals from two community organizations – Solid Ground and the Hunger Intervention Program (HIP) – came to the school to talk about food insecurity in King County. Students then participated in a service project that provided food packs to support children at risk of hunger when they are out of school on the weekend. The lesson did not end there, however. Students then went to a local farm to help the workers gather food that would go to a food bank and learn about farming and social movements related to farming. Explained a teacher, *"We talked about Cesar Chavez and what [social justice leaders] have done to help others, just because I don't think kids realize how much work it is to have healthy food. Some people work really hard to get their food while others just don't have enough."*

Example B: Re-designing the Social Studies Curriculum at Mercer International Middle School

Meg Luthin, a teacher and ISLT member, worked a few years ago with another teacher to reinvigorate Mercer's 7th grade social studies curriculum so that it revolved around global issues.

"Rather than a more traditional regions-based approach, we used some great materials from [a Social Studies curriculum focused on sustainability] and real-life contemporary current events. It became the venue through which [students] were learning their geography skills. It's what kids want to be learning. They can immediately see that it's relevant to them right now…And then when we do meet those themes in more historical texts, they can start to make those connections. Right now, the big work our social studies department is setting up intentional structures for next year to tackle current events at all grade levels in all social studies classes. And to begin to help give the kids the skills to be able to make those connections between their life and social contexts, and historical events, and what's happening in the world right now."

Example C: Global Arts Unit at Chief Sealth International High School

At Chief Sealth, lessons on cultural and global competence extend beyond core courses and into the arts curriculum as well. Arts teacher Carolyn Autenrieth explains:

We just did a very short unit on redesigning the American flag from whatever perspective you are coming from. It's actually tied to an art show that's going to be at ArtXchange Gallery downtown that I'm a part of as an artist. So I invited my students. It's a real-world opportunity. I said, "You're allowed to do anything as long as you are creating a statement."...I try to create the space in the art room as a space where students can exercise all of their ideas of culture and faith as it relates to what it is that they are trying to express in their work. There are so many questions, so many conversations comparing elements of Muslim faith and Christian faith or of Judaism or of Catholicism. So there's a lot of faith conversations. And one of the things I really love is [that] it feels like a safe place…I think overall my goal as an international teacher, is to create that space.

Example D: Recognizing World Water Week at Beacon Hill International

At Beacon Hill International, ISLT members Mary Howard Logel and Mary Thompson led a "Global Leadership Team" to participate and lead school events that tie in closely to multicultural themes. They participated in World Water Week, where they not only teach 5th grade "GLT" members about water themes, but ask students to go into classrooms for the younger grades and teach these students. These students also had the opportunity to learn beyond their school walls, taking part in a local conference on global issues and fundraising for organizations. A student explains:

We have a program called GLT, and it's about helping the school community. Only fifth graders, so all of the younger kids can look up to us, so we become leaders… And we do a lot to try to help our world because some people just don't help, knowing or not knowing. But if we can try to help fix the mistakes that have happened already.

Example E: Multicultural Night at Concord International Elementary School

Multicultural Night is a major event each year at Concord, and teachers, students, and parents all mentioned the event as core to the school's approach to inclusivity. Explains one parent [translated from Spanish]:

"We have the ability to socialize with other people in a way that's healthy, respectful, and most of all we learn from each other. And so I think it's a wonderful thing that the school does. I really like the American community, how they help us, involve us, and not just with the children, but with the parents as well. For example, I don't speak much English and the people will greet me in Spanish and I'll greet them back in English. So it's also a chance to learn and grow, since the lines of communication are open throughout the entire community."

In the teacher survey, respondents weighed in on the degree to which cultural and global competence was successfully integrated the classroom and the school as a whole. Although over three-quarters of teachers (78%) said that they "regularly incorporate cultural and global themes into my work with students," teachers were slightly less certain about schoolwide practices. Overall, 65% of respondents agreed that "My school offers meaningful schoolwide initiatives focused on cultural and global competency," but over 20% disagreed with the statement. Results were similar pertaining to extracurricular opportunities.

Figure 15. Teacher survey responses regarding cultural and global competence integration
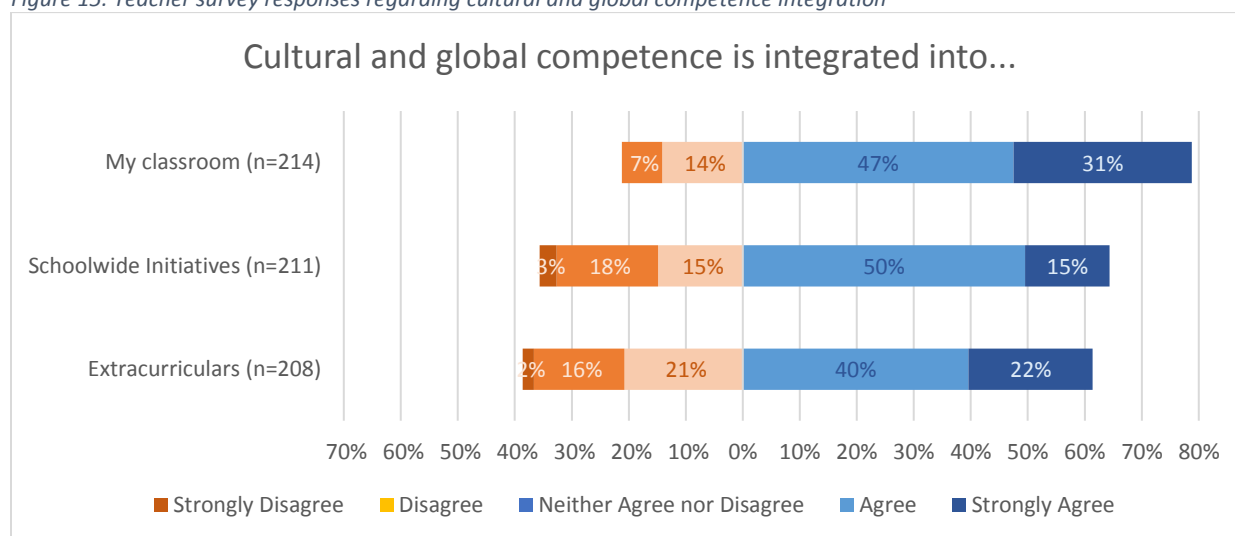
What resources and supports do teachers need to integrate these principles in their schools?

Teachers named three key mechanisms of support for cultural and global competence integration. First, teachers said that the **International Schools Leadership Team (ISLT)** is a key enabler of successful implementation of cultural and global competence in their schools. Schools with members on the ISLT were actively providing professional development for school staff, hosting events and coordinating school-wide thematic units. All schools are invited to send a representative to the ISLT, but, given school-specific staffing challenges, occasionally a school is not able to provide one. One ISLT member described how she supports the implementation of cultural and global competence in teachers' practice.

> *We basically go into classrooms in the beginning of the year and say, 'Not only how can we support you, but what are the units of study you are going to be studying this year?' And we put a globalized perspective on that unit. – ISLT teacher*

Second, teachers discussed the importance of – as well as some perceived barriers associated with – the **International Education Category**. Teachers in International Schools have the opportunity to receive an International Education Category, which certifies them districtwide as international teachers skilled in cultural and global competence instruction. However, the process to receive the international designation was described by some teachers as lengthy, confusing, and unsupported. To be effective and increase the number of teachers with the International Education Category, teachers say the district should provide standards and examples of units to prepare teachers for the process. Many teachers expressed interest in receiving their category, however the barriers of time and unclear expectations stand in their way. Creating a space where teachers interested in receiving their category could plan together, workshop ideas, and go through the process with others, they say, would be a step in the right

direction. See the appendix for more information about the International Education Category.

[School leaders] encourage it and they say, 'Get your international category, it's a great thing,' but ... I feel like we had to kind of figure it out on our own. – Teacher

Creating a cohort of people in the building who would like to pursue that together would be something that I would embrace. – Teacher
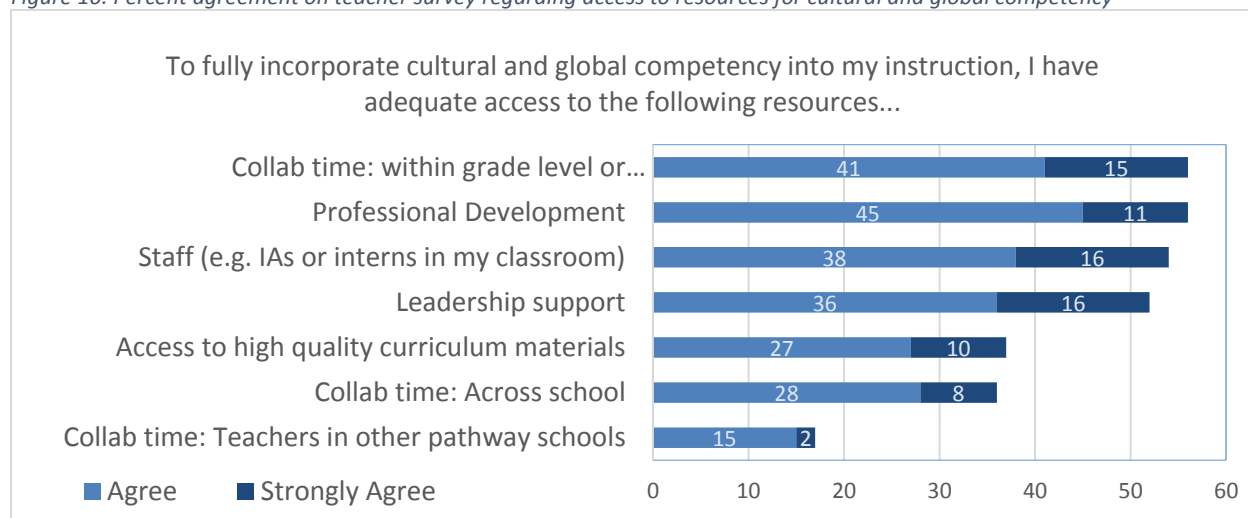
Finally, teachers expressed the need for **structured time** for teachers to share amongst themselves instead of leaving collaboration as an individual endeavor. Schools, they said, should create a culture and a schedule where it is acceptable and actually expected for teachers to ask for help when incorporating an international curriculum. Currently, these connections happen either through the ISLT leaders conducting individualized trainings or coaching, or organically through grade level or content level sharing. But school leaders, they say, should prioritize creating structures that support collaboration, for example through common planning time and use of early-release days.

There's been some challenges that way, in that we haven't had time to sit down and make those units work for your new grade level or change up or find out what's happening. There's definitely some sharing as teachers go into new grade levels, but as people leave or people change some of it gets lost. – Teacher

A theme throughout these three requests is that teachers want actionable professional development. Teachers at all grade levels do not want "theory" based trainings, but rather explicit strategies and lesson examples related to international education. Additionally, teachers want professional development to include classroom initiatives as well as school-wide examples of incorporating cultural and global competence. Furthermore, they say that professional development should be required for all international teachers to create consistent messaging throughout the school.

In the teacher survey (n=217), we asked teachers about the supports they currently access to support the incorporation of cultural and global competence in their instruction. The results below show that teachers want greater investment in resources, particularly access to high quality curriculum materials and increased collaboration time with their colleagues, both within and outside of their schools.

Figure 16. Percent agreement on teacher survey regarding access to resources for cultural and global competency

To fully incorporate cultural and global competency into my instruction, I have adequate access to the following resources...

	Agree	Strongly Agree
Collab time: within grade level or…	41	15
Professional Development	45	11
Staff (e.g. IAs or interns in my classroom)	38	16
Leadership support	36	16
Access to high quality curriculum materials	27	10
Collab time: Across school	28	8
Collab time: Teachers in other pathway schools	15	2

Dual Language Immersion

This section includes findings specific to the Dual Language Immersion programs, which are offered in all ten schools, albeit in different forms. The findings below address three main questions:

1. What are the models of Dual Language Immersion in Seattle Public Schools?
2. To what extent is Dual Language Immersion implementation aligned with best practices?
3. What do stakeholders believe are the key benefits of DLI?
4. What resources do stakeholders need to successfully implement DLI?

What are the models of Dual Language Immersion in Seattle Public Schools?

In interviews with principals, focus groups with teachers and students, and teacher survey responses, we asked about the specific ways in which DLI is implemented in the 10 International Schools. We found that DLI models vary greatly from school to school. The table below maps some of the essential conditions that lead to variation.

Table 5. Variation in conditions for DLI implementation

	DLI Languages Offered	% students in DLI	% Heritage Language Students
Northwest Region			
McDonald International School (K-5)	Spanish, Japanese	100%	14% Spanish; 9% Japanese
John Stanford International School (K-5)	Spanish, Japanese	100%	14% Spanish; 26% Japanese
Hamilton International Middle School	Spanish, Japanese	18%	11% Spanish; 2% Japanese
Ingraham International High School	Spanish, Japanese	n/a	n/a
Southwest Region			
Concord International School (K-5)	Spanish	68%	62% Spanish
Denny International Middle School	Spanish	20%	82% Spanish
Chief Sealth International High School	Spanish	10%	94% Spanish
Southeast Region			
Beacon Hill International School (K-5)	Spanish, Mandarin	71%	59% Spanish; 1% Mandarin
Dearborn Park International School (K-5)	Spanish, Mandarin	43%	6% Spanish; 0% Mandarin
Mercer International Middle School	Spanish, Mandarin	11%	59% Spanish; 5% Mandarin

Aside from striking similarities between the models at McDonald and John Stanford, the implementation of DLI varies widely both within and across pathways. For example, even if one were to look just at Spanish DLI (offered at all 10 schools), there would be vastly different implementation models based on the background of enrolled students and languages offered.

An additional distinction is that elementary schools have used three approaches to teaching initial literacy in the partner language. All of the Japanese and Mandarin programs and some of the Spanish programs (those with a majority English-speaking student population) have used a concurrent literacy approach – starting in Kindergarten, students learn to read and write in both English and the partner language. Beacon Hill and Concord, however, have taken two different approaches in prior years. At Beacon Hill, all K-1 Spanish DLI students received explicit initial literacy instruction in Spanish only K-1. At

Concord, heritage language students received initial literacy instruction in K-1 in Spanish only, while all of the English and other ELL students received initial literacy instruction in English. However, starting in 2017-2018, with the adoption of the new K-5 English Language Arts curriculum, all DLI programs are moving to a concurrent initial literacy model starting in Kindergarten.

Although the differences in implementation are perhaps the expected result of different school-level inputs, there is qualitative evidence that both principals and teachers would like greater standardization of best practices in DLI implementation. In the Phase 1 report, we highlighted that principals would like common district guidelines and best practices for DLI implementation, for example the sequencing of coursework, staffing models, and other particulars. Similar to principals, teachers noted that they would greatly value a set of guidelines that outlined nationally accepted best practices on Dual Language Immersion. Said one teacher, **"if you want to have a dual language program, you need to make sure to run the way it should be, not guessing and changing things every year."**

To what extent is Dual Language Immersion implementation aligned to best practices?

Given that the context and models for DLI differ greatly from school to school, it is not surprising that there is no one best way to implement DLI in practice. As schools further develop and grow their Dual Language Immersion programs, however, there has been an increasing interest in establishing a districtwide set of best practices for DLI implementation. Concurrent to this program review, the district's International Education Administrator worked with partners from the University of Washington – and received outside review from a variety of internal stakeholders and external DLI experts – to create a Dual Language Immersion Fidelity Checklist. The intention is for this Fidelity Checklist to be useful now and in the future as a tool for continuous improvement of SPS's DLI programs. More information on the Fidelity Checklist, including the sources used to compile the list and the process for review by national experts, is available in the appendix to this report.

For the purposes of this program review, we worked with community stakeholders and national experts to incorporate 11 items from the Fidelity Checklist into the Teacher Survey supplement for DLI teachers. Overall, 37 DLI teachers responded to our fidelity checklist questions, which gives some indication of variation in implementation within and across schools. Results are presented below, and are grouped into four areas: 1) Instruction; 2) Curriculum and materials; 3) Assessment; and 4) Professional Development. The "agreement" column represents the percentage of respondents across all 10 schools who either "agreed" or "strongly agreed" with the statement on a 5-point Likert scale for agreement.

DLI Fidelity Checklist: Instruction	
In my school, students have….	% Agreement
☐ Access to both structured and unstructured learning activities	78%
☐ Opportunities to develop formal and informal language in English and the partner language	64%

DLI Fidelity Checklist: Curriculum and Materials

DLI Curriculum and Materials are....	% Agreement
☐ Aligned to Washington State Learning Standards, including Common Core State Standards, Next Generation Science Standards, and the World-Readiness Standards for Learning Languages	36%
☐ Intentionally planned across grades for each content area taught in the partner language and English	33%
☐ Designed to promote the development of bilingual, bicultural, biliterate, and multicultural competencies for all students	50%
☐ Age appropriate and engaging for students of intended language proficiencies	47%
☐ Shared across schools, grades, and content areas (for model curricular units)	19%

DLI Fidelity Checklist: Assessment

In my school, teachers use....	% Agreement
☐ Formative and summative classroom-based assessments of student proficiency in both the partner language and English	72%
☐ Data from student language assessments for student placement, interventions, and to guide instruction	53%
☐ Data from student language assessments to report progress to families on students' growing proficiency in the partner language and English	56%

DLI Fidelity Checklist: Professional Development

In my school, teachers receive....	% Agreement
☐ Meaningful and targeted professional development for teachers throughout the school year on both teaching academic content and teaching for biliteracy	25%

As shown in the Fidelity Checklist results above, levels of agreement are highest when teachers evaluate access to instructional opportunities for students and formative assessment. They are lowest in the areas of curriculum alignment and articulation, as well as access to high quality professional development. Below, we shed light on these numbers by examining stakeholder perceptions of implementation from both the Teacher Survey and the site visit schools.

What do stakeholders believe are the key benefits of DLI?

Both during the site visits and in the teacher survey, we asked about the ways in which DLI benefits students' learning opportunities. On the Teacher Survey, for example, we asked teachers to identify the benefits of DLI that were most important to them.

> ### Teacher Survey: Top 5 Perceived Benefits of DLI
>
> 1. Written and oral communication in two languages
> 2. Greater appreciation for other languages and cultures
> 3. Enhanced career and employment opportunities
> 4. Improved academic outcomes for ELL students
> 5. Eliminating the opportunity gap for students of color

Data from site visits helps to clarify that, while biliteracy and cultural/global competence is a key goal across all schools and for all student groups, schools in the SE and SW pathways firmly believe that DLI is a tool to eliminate opportunity gaps in academic achievement, particularly f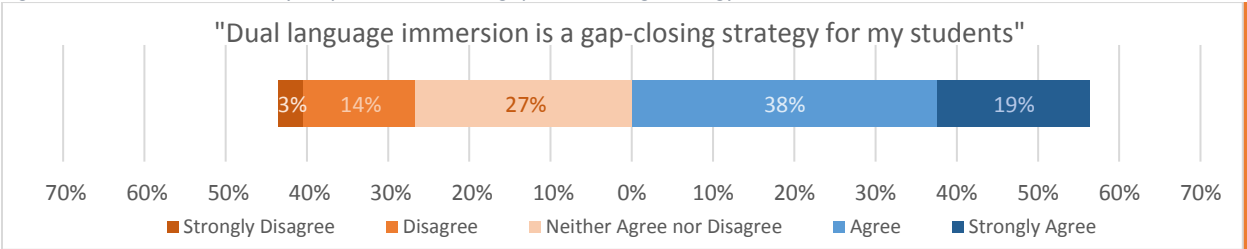or ELL students and heritage language students. Immersion programs are gap closers, they say, because they inherently treat multilingualism as a strength, make parents feel more included in the learning process, contain intensive ELL support, and provide avenues for college credit.

> *The benefit for the kids and for their families is that they're able to learn in their native language. Being able to communicate with the parents and tell them where their kids are at, explain to them what supports they can also offer at home to help them out…Then there's ELL support for them to support them as learners and provide them with other opportunities that they need. – DLI Teacher*

> *I have noticed that some of these highly accomplished students in my immersion class…they have a horizon to continue with Spanish immersion, IB, and they say, "okay, I want to get that credit.' You can tell them, 'do your best, because there's an incentive out there – college life is incredible.' – DLI Teacher*

Teacher survey findings demonstrate that, even when responses are aggregated across the three pathways, over half of DLI teachers (n=37) agreed that "Dual language immersion is a gap-closing strategy for my students."

Figure 17. DLI teachers' survey responses on DLI as gap-eliminating strategy

"Dual language immersion is a gap-closing strategy for my students"

3%	Strongly Disagree
14%	Disagree
27%	Neither Agree nor Disagree
38%	Agree
19%	Strongly Agree

70% 60% 50% 40% 30% 20% 10% 0% 10% 20% 30% 40% 50% 60% 70%

In addition to the five core benefits mentioned above, site visit respondents – representing viewpoints across the three pathways and three immersion languages – said they could see meaningful benefits of DLI beyond what was measurable in test scores. They mentioned:

- **Improved student resilience** – Students and teachers say that DLI teaches students to be resilient, as learning a new language requires student to make meaning through their mistakes;
- **Improved student focus** – Students say that learning in a new language requires a high level of concentration/focus that not only teaches them language and content, but also how to learn;
- **Better connections between teachers, peers** – Because students typically have the same teacher for multiple grades, they reported strong connections to teachers and peers; and
- **Improved levels of parental engagement** – ELL/Heritage students said that DLI helps them to involve their parents in their education.

Stakeholders also mentioned some possible drawbacks to DLI programs:

- **Lack of student interest** – Some students mentioned that, although their parents opted them into DLI, they do not wish to continue DLI past elementary school;
- **Concentrated behavioral issues** – Some teachers mentioned that having multiple tracks of students within a school (DLI in specific languages, English track) may lead to concentrated SPED services or behavioral issues, particularly in the non-DLI track;
- **Fewer opportunities to interact** – As a corollary to the point above about student connections, having a DLI cohort means that, particularly in elementary school, there are fewer opportunities for students and teachers alike to form relationships with peers outside of their class; and
- **Re-routed ELL resources and support** – English-track teachers at one school said that their school was thinly staffed to adequately serve non-immersion ELL students at their school.

What resources do stakeholders need to successfully implement DLI?

In the teacher survey, we probed on the degree to which DLI teachers thought they had adequate resources to be successful. Fewer than half of respondents (n=37) reported that they had access to adequate resources to support DLI. Areas of particular need include curriculum materials and collaboration time with other International School teachers.

Figure 18. Teacher survey responses regarding access to DLI resources
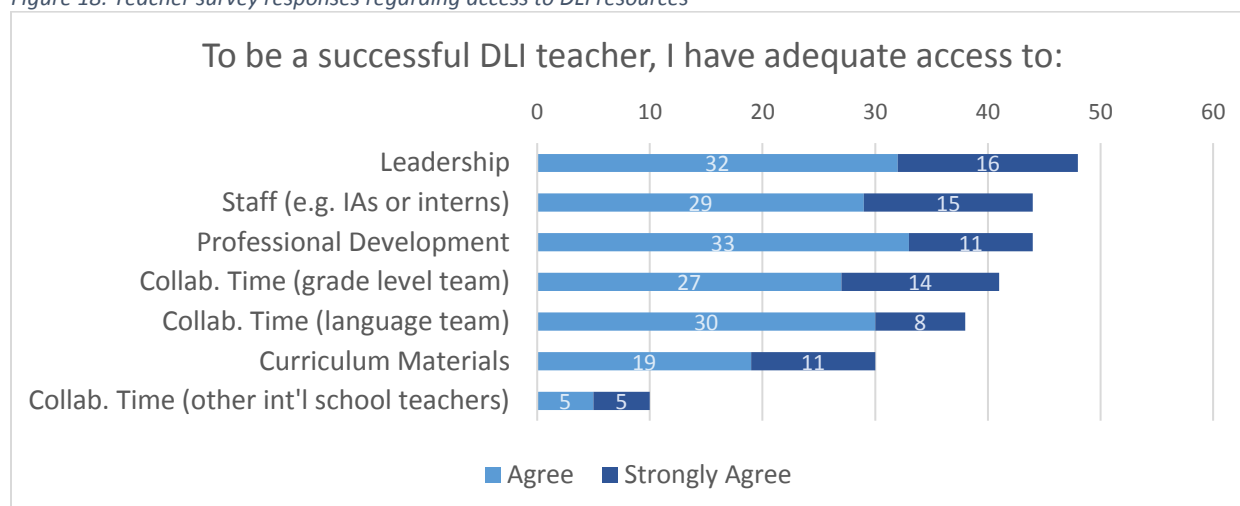
Qualitative findings provide additional insight into areas of need. Teachers across all three immersion language tracks expressed serious concerns that the district or their school does not provide resources or targeted support for three critical components of DLI:

1. **Curriculum**. Although some Spanish teachers are able to use publisher translated materials (for example, Math in Focus), teachers in Mandarin and Japanese are unable to draw on any existing resources due to copyright issues.

    > *We are constantly developing our own curriculum. We are trying to make something out of nothing. Which is very very difficult for us, as an immersion school teacher, because we already have to figure out how do you integrate your language into your subject area, but at the same time you don't have enough money to get the material you need. – DLI Teacher*

    In practice, this means that teachers must develop content on their own, with some teachers reporting that they spend their own money buying curriculum resources when visiting their home countries during summer breaks. Although some schools have attempted to provide time for teachers to discuss curriculum development – for example, holding summer weeklong workshops or common planning time for grade levels throughout the year – most teachers report that they are totally on their own. They feel lost, they say, working to develop high quality content that is aligned to standards, culturally relevant, age appropriate, and sufficiently differentiated for native and non-native speakers.

    Teachers said that they need a central office specialist (apart from the program administrator) who can provide specific curriculum development support in partner languages. Teachers also would like district assurances that DLI programs will be fully considered during districtwide curriculum adoption processes. They felt, for example, that the recent K-5 ELA adoption did not sufficiently consider the needs of the five elementary International Schools.

2. **Professional Development**. The majority of professional development opportunities for DLI teachers are those led by teacher leaders (e.g. ISLT members) in the schools. Dependent upon district budgets, teacher leaders are given the opportunity to attend regional and national conferences in order to learn from experts throughout the country and to build their confidence as leaders of professional development their schools. The district has also been able to leverage the relationship with the University of Washington to partner on professional development workshops, trainings, and institutes. See appendix for a full list of district supported professional development opportunities in 2015-16 and 2016-17.

    These opportunities aside, teachers said that they would like regular, targeted professional development, particularly in the areas of curriculum development and best practices in effectively teaching in a dual language environment (for example, working collaboratively with non-partner language teachers, teaching large class sizes and large cohorts of students, and incorporating global and cultural competency into content).

3. **Time and Structures for Collaboration**. Teachers noted that they would like more time to collaborate, both within and across schools. For within-school collaboration, teachers noted that

they typically use designated common planning time to meet regarding curriculum development, instructional strategies, and discussions of specific student needs. Although some elementary schools reported that they had sufficient time to collaborate with their partner teacher(s), nearly all teachers said they wished they had more opportunities to connect across schools – for example, in vertical alignment with their pathway, or with teachers at their level in other pathway schools. This was especially true for secondary teachers, where the smaller number of DLI teachers in the school means that PLCs and other collaborative groups might have teachers that do not share the same students or even instruct in the same language.

Cost Summary

In this section, we provide descriptive information about the costs associated with operating the International Schools. Data sources for the analysis include programmatic information from the International Education office, as well as data from the SPS Grants Office and Budget Office.

Generally speaking, there are five types of funding that the district provides to International Schools to support staff and students: start-up funding to International Schools in their initial years of operation; central office support, the International Schools Leadership Team (ISLT), grants (including PTA support), and staffing mitigation. Below, we report on costs in each of these areas.

> ### Categories of District Supports for International Schools
>
> 1. Start-Up Funding
> 2. Central Office Support
> 3. International Schools Leadership Team
> 4. Grants
> 5. Staffing Mitigation

Reporting on costs, however, is limited by the quality of data collection and reporting on costs and expenditures districtwide. Data presented below are descriptive only and provide only a snapshot of funding from central district tracking sources as opposed to a historical analysis of data trends.

1. Start-up Funding

Data source: International Education office. As schools plan to transition from traditional schools to an International School, the district has traditionally allocated $15,000 for pre-planning activities, and another $100,000-$130,000 (depending on school size) for the initial year of implementation. These start-up funds may be used for the following activities:

a. Creating a multi-year professional development plan
b. Planning and creating curricular units that infuse global perspective and/or target language
c. Planning for and developing a comprehensive assessment plan/system in multiple subjects and languages
d. Purchasing/creating materials and curriculum for global perspective, target languages, and an international climate
e. Purchasing of leveled classroom and library books in the target languages
f. Continuing collaboration with other International Schools and within a school team

See the appendix for detailed budget information from the International Education office, including a historical table of start-up funding by school.

2.   Central Office Support

Data source: International Education office. The district currently employs one Full Time Equivalent (FTE) administrator to support International Education/Dual Language Immersion. Annual cost in terms of salary, benefits, and internal departmental budget is approximately $155,000.

3.   International Schools Leadership Team (ISLT)

Data source: International Education office. The ISLT was established in 2014 as a leadership group of teacher leaders from all of the International Schools. The ISLT Leads each received 0.2 FTE to devote time to support both their school and all International Schools across the district. About half the remaining ISLT members received a yearly stipend of $3,500 to $5,000 (depending on the year) and the remaining ISLT members received extra hours for attending ISLT planning meetings and carrying out projects and professional development. Funding for the ISLT has varied over the years. It was fully funded in 2016-17 ($156,439 across both staff and funding for professional development), but did not receive any funding for 2017-18.

4.   Grants

Data source: SPS Grants office. Apart from official district-funded channels for funding, International Schools may receive external funding to support programs and services for students and staff. One notable source of funding is that from Parent Teacher Associations (PTAs). Others include Title I funding and City Levy Grant funding.

Table 6. SPS-tracked sources for International Schools, 2016-17

School	Title I	LAP	City Levy Grant	PTA	Other Grants	Total Grants
Northwest Region						
John Stanford International	-	$44,165	-	$513,565	-	$557,730
McDonald International	-	$45,380	-	$404,421	-	$449,801
Hamilton International	-	$59,784	$177,066	$77,700	$40,000	$354,550
Ingraham International	-	$81,047	$448,327	-	$9,798	$539,172
Southwest Region						
Concord International	$207,230	$97,188	$349,355	-	$26,500	$680,273
Denny International	$341,550	-	$612,302	-	$350,191	$1,304,043
Chief Sealth International	-	$121,571	-	-	$40,786	$162,357
Southeast Region						
Beacon Hill International	$124,054	$77,750	$377,961	$40,015	$41,950	$661,730
Dearborn Park International	$174,483	$97,188	$272,162	-	$190,642	$734,475
Mercer International	$426,930	-	$504,564	-	$236,833	$1,168,327

As shown in the table above, schools received a constellation of external supports in 2016-17. Schools in the northwest pathway typically use the PTA as a fundraising tool to support general school activities, as well as hiring of Instructional Assistants (IAs) for both DLI and non-DLI support. Schools in the southeast and southwest pathways utilize other external grants, such as Title I and City Levy grants (delivered via formulas based on student demographics), to support staffing and other programming activities.

5.   Staffing Mitigation

Data source: SPS Budget office. Board Policy No. 6010 sets forth guiding principles by which staffing needs are allocated to different schools. Among them is that funding models should "Provide the core staffing needed for schools to focus on academic issues." For International Schools, this may entail school requests to provide additional staffing to support Dual Language Immersion classes, due to the infeasibility of combining under-enrolled classes taught in different partner languages. To determine allowances for additional staff, the district takes into account overall budget availability and analyzes school needs based on equity factors and student needs.

Table 7. SPS Budget Office report of staffing mitigation

School	Mitigation FTE for DLI[4]	Total Amount
Northwest Region		
John Stanford International	1.0	$97,188
McDonald International	1.0	$97,188
Hamilton International	-	-
Ingraham International	-	-
Southwest Region		
Concord International	1.0	$97,188
Denny International	1.0	$99,639
Chief Sealth International	-	-
Southeast Region		
Beacon Hill International	1.0	$97,188
Dearborn Park International	1.0	$97,188
Mercer International	-	-
TOTAL	6.0	**$585,579**

The Budget office cautions that different factors influence the staffing mitigation that a school receives, and mitigation requests have not been systematically tracked in consistent ways year to year. Table 7 represents the Budget Office's best estimate of mitigation requests for 2016-17 that are reflective of schools' needs for DLI programs. The Budget Office cautions, however, that schools across the district receive staffing mitigation for a number of reasons, including enrollment of a large number of high-need students (i.e. schools with large achievement gaps and/or high poverty), small school size, and specialized programs (e.g. International Baccalaureate, Proyecto Saber). Dual Language Immersion is just one example of a programmatic justification for a mitigation request.

Implementation Analysis Summary

In our implementation analyses, we found:

- **Stakeholders want a district-supported vision for the future of International Schools.** Specifically, they want district leaders to define how they see international schools fitting into the fabric of Seattle Public Schools. Strong district support, they say, would involve creating intentional structures for collaboration and best practice implementation (for example, supporting and extending the International Schools Leadership Team), providing targeted curriculum support and materials for immersion classes, and recognizing the specific staffing needs of international schools.
- **Stakeholders believe that "cultural and global competence" is just good teaching.** Principals, teachers, and students all expressed that integrating cultural and global competence should be common practice in all SPS schools, not just the 10 international schools. However, they say that

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[4] Amount reflects the total FTE per category per school, which may be spread across multiple individuals.

publicly stating these ideals allow their school to more intentionally commit to these practices. They also suggest that the district look to international schools as exemplars of the successful integration of these values and practices.

- **Dual Language Immersion models differ widely among schools.** The ten International Schools differ widely in their approach to Dual Language immersion according to the school model (option school vs. neighborhood school), student population (student demographics, ELL status), school level (elementary vs. secondary), and languages for DLI (Spanish, Mandarin, Japanese).
- **Implementation of DLI is moderately aligned to nationally-recognized best practices.** Using the Fidelity Checklist, we found that teachers' reports of DLI implementation were as high as 78% on certain items, but as low as 19% on others. Considering that the Fidelity Checklist has not yet been distributed to schools or established as a district expectation of school practices, observed variation in agreement is not a reflection of "low" or "poor" implementation of DLI. Rather, it is a signal to school and district leaders about how they might improve practices in the future to better align their practices to national, literature-based best practices.
- **Stakeholders believe in DLI as a gap closing practice, particularly for ELL/Heritage language students.** Principals and teachers, particularly those in the southeast and southwest pathways, believe that DLI is a gap closing measure for this group of students.
- **Fundraising sources and expenditures vary from school to school.** Schools have support from central office staff in the form of one FTE administrator and a small budget for professional development, but rely on various sources of external funding (e.g. levy grants, PTA funds) to support the costs of DLI and International School programs. Additionally, some schools have requested above-model staffing allocations to account for the nature of the DLI staffing model.

OUTCOMES/IMPACT ANALYSIS
FALL 2017

Overview

The Phase 3 (Outcomes/Impact) Analysis presents additional descriptive outcome data that was not previously reported in the Phase 1 report. Then, we move beyond descriptive data and implementation to report on programmatic impact of Dual Language Immersion on student achievement.

This report includes the following components:

Outcomes/Impact Analysis Roadmap:

  I.   Descriptive Outcomes
  II.   Impact Analysis
          o   Context
          o   Methods
          o   Findings
          o   Limitations

Descriptive Outcomes

In this section, we provide descriptive data on language proficiency and biliteracy. International schools administer the Standards-based Measurement of Proficiency (STAMP), developed at the University of Oregon, to assess students' progression in language skills. The table below details the SPS DLI proficiency targets on the assessment.

Table 8. SPS DLI proficiency targets

| Seattle Immersion Proficiency Targets									
(agreed by International Schools principals 1/24/2013)									
Grades	**Targets:**	**NL**	**NM**	**NH**	**IL**	**IM**	**IH**	**AL**	**AM**
3rd Grade			▓	▓					
5th Grade			▓	▓					
8th Grade					▓	▓			
12ᵗʰ Grade								▓	▓

ACTFL Proficiency Guidelines[5]
NL, NM, NH = (1) Novice Low, (2) Novice Mid, (3) Novice High
IL, IM, IH = (4) Intermediate Low, (5) Intermediate Mid, (6) Intermediate High
AL, AM, AH, S = (7) Advanced Low, (8) Advanced Mid, (9) Advanced High (10) Superior

The table below shows the results for SPS 5ᵗʰ grade DLI students from the Fall 2016 STAMP testing window.

Table 9. 5th grade STAMP results (Fall 2016)
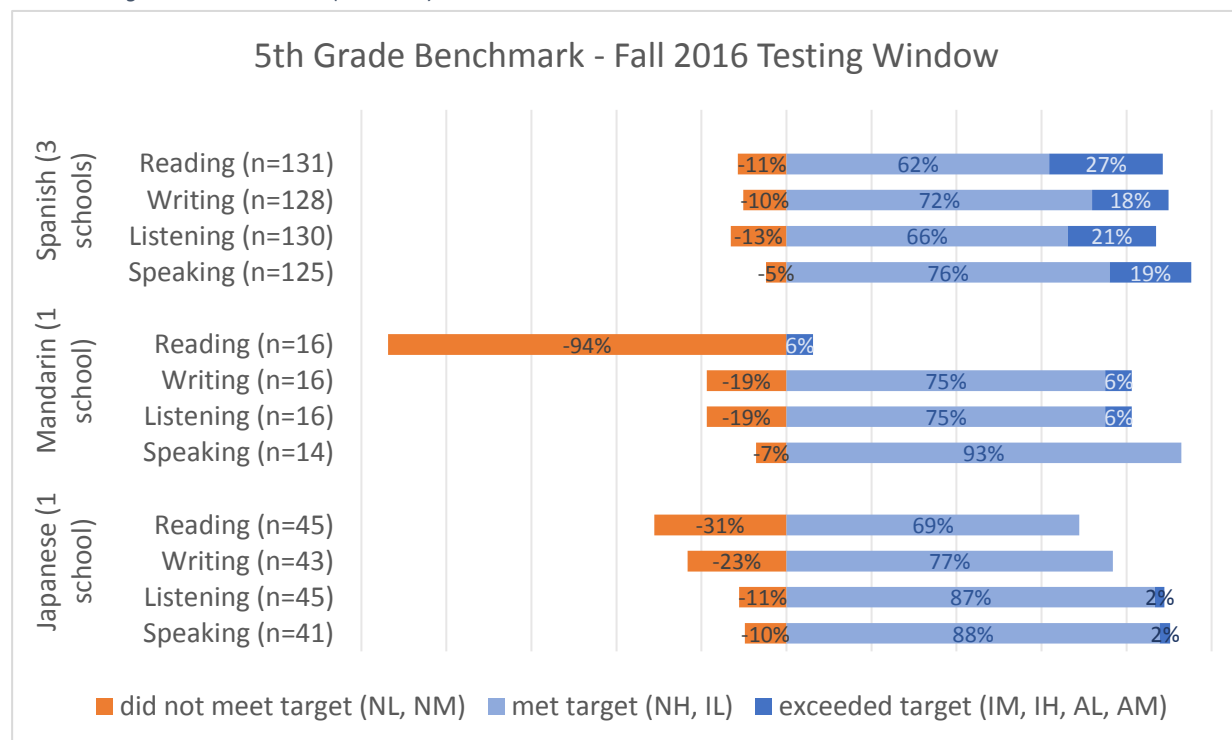
For 5ᵗʰ grade results, on average across all the DLI programs, students reached the Target Proficiency levels (Novice High to Intermediate Low), but did not exceed them. Reading in Mandarin and Japanese were lower than for Spanish, particularly in Mandarin, although it is important to be careful to interpret this based on just one test administration and a very small sample size (n=16).

In addition to the 5ᵗʰ grade benchmark, we report on 3ʳᵈ and 8ᵗʰ grade STAMP results in the appendix. Additionally, the appendix contains other descriptive outcomes, including completion rates for the Global Competence Certificate, as well as the number of students receiving the Seal of Biliteracy.

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[5] http://actflproficiencyguidelines2012.org/

Impact Analysis

Context

Over the past several decades, there has been a growing body of research into the cognitive benefits of bilingualism (Marian & Shook, 2012; Kovacs & Mehler, 2009; Diaz & Klingler, 1991), which has been one of the reasons parents send their children to DLI programs. There has also been compelling evidence demonstrating the effectiveness of DLI as an instructional model that can not only close, but eliminate the opportunity gap for underrepresented populations. *Dual Language Education for a Transformed World* by Wayne P. Thomas and Virginia P. Collier (2014) offers some of the most comprehensive data about the performance of different groups on standardized tests of English and math, comparing results of students in DLI programs with those of students not learning in two languages. Their research shows that English learners in DLI outperform students in ESL-only programs in both English and other academic areas. They consider that "dual language education is the most powerful school reform for high academic achievement whatever the demographic mix" (pg. 27) and that the "dual language program seems to strongly counteract the negative impact of low socio-economic status on school achievement" (pg. 75).

A recent study in the Portland Public Schools (RAND, 2015) bolstered these findings. The study, conducted over a 10-year period, found that students randomly assigned to DLI outperformed their peers in English reading by about seven months in 5th grade and nine months in 8th grade. Additionally, immersion students had lower rates of classification as English Language Learners (ELLs) by sixth grade, and that effect was larger if students' native language matched the classroom partner language. The RAND study in Portland is an example of the "gold standard" of causal inference – a Randomized Control Trial (RCT) – wherein participants are randomly assigned to treatment and control groups.

In education (and many other social science fields), however, students are typically not randomly assigned to programs or interventions for logistical, financial, and ethical reasons. Seattle Public Schools does not hold a random lottery for placement into its DLI programs. In the absence of random assignment to the program (for example, Portland's lottery system), we employed quasi-experimental designs to draw causal inferences about the programmatic the impact of Dual Language Immersion. Our research questions, methods, and analyses are below.

Methods

Our research questions detail outcomes in three areas: student achievement, ELL reclassification rates, and high school graduation.

> ## Research Questions
>
> Q1. What is the effect of DLI on student achievement in ELA and mathematics? Are there differences by immersion program language? Are there differences by race, home language, low-income status, ELL status?
>
> Q2. What is the effect of DLI on ELL reclassification?
>
> Q3. What is the effect of DLI on graduation rates?

To answer these questions, we used both cross-sectional and longitudinal data. **Cross-sectional data**, which is sometimes referred to as "snapshot" data, is the analysis of data from one point in time. **Longitudinal data**, on the other hand, follows a cohort of students over time. The table below summarizes six different analyses that we ran across the three research questions.

Table 10. Description of datasets used in this study

Research Question	Analysis	Data Source	Grades	School Years	DLI sample size
RQ1: Student Achievement	A. Cross-Sectional Smarter Balanced Analysis	OSPI – SBA	3-8	2015-16; 2016-17	932; 1,182
	B. Longitudinal Smarter Balanced 8th Grade Outcomes Analysis	ADW	K-8 (1 cohort)	2008-09 – 2016-17	120
	C. Longitudinal Smarter Balanced 6th Grade Outcomes Analysis	ADW	K-6 (3 cohorts)	2008-09 – 2014-15 2009-10 – 2015-16 2010-11 – 2016-17	389
RQ2: ELL Reclassification	D. Cross-Sectional ELL Reclassification Analysis	OSPI – ELPA21	K-12	2016-17	533
	E. Longitudinal ELL Reclassification Analysis	ADW	K-6 (3 cohorts)	2008-09 – 2014-15 2009-10 – 2015-16 2010-11 – 2016-17	154
RQ3: Graduation	F. Longitudinal Graduation Analysis[6]	ADW	6-12 (1 cohort)	2010-11 – 2016-17	n/a[7]

Important in all six analyses was the ability to find a group of students that could serve as a control group by which we could measure the relative effects of the treatment group (i.e. students enrolled in DLI). To do this, we used a statistical technique called Propensity Score Matching (PSM), which allows the researcher to match the control units to treatment units on a number of variables of interest (Gelman & Hill, 2007). This process generated a control group that was demographically similar to the treatment group. See tables in the appendix for a complete demographic breakdown of DLI students and non-DLI students before and after the matching process.

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[6] For this analysis, we followed a cohort of 2010-11 6th graders through 2016-17 (Class of 2017) school year and used their enrollment status (Graduated) as of the end of the school year as our outcome variable. Unfortunately, we were not able to flag DLI students in 2010-11, therefore we were not able to directly address the research question. Instead, we looked at whether attending an International School and years spent in International Schools as our predictor variable.

[7] Due to difficulties with DLI flagging in secondary schools in earlier years, we were not able to identify which students have been through the DLI program for this cohort.

The table below shows which variables were used in the matching process for the different analyses.[8]

Table 11. Variables for propensity score matching

	Cross-sectional Smarter Balanced	Cross-sectional ELL Reclassification	Longitudinal Smarter Balanced (6th and 8th grades)	Longitudinal ELL Reclassification	Longitudinal Graduation
Grade	✓	✓	–	–	–
Gender	✓	✓	✓	✓	✓
Race/Ethnicity	✓	✓	✓	✓	✓
Low Income	✓	✓	✓	✓	✓
SPED	✓	✓	✓	✓	✓
ELL	✓	–	✓	–	✓
ELL Exited	✓	–	–	–	–
Highly Capable	✓	✓	✓	✓	✓
Homeless	✓	✓	–	–	–
At Attendance Area	✓	✓	–	–	–
Home language	✓	–	–	–	–
3rd grade MSP	–	–	✓	–	–
ELL placement level	–	✓	–	–	–
Mobility	–	–	–	–	✓

We then used multilevel regression models (also known as hierarchical linear models and mixed-effects models) to analyze DLI effects on outcomes of interest. Multilevel models are commonly used to analyze programmatic effects in school contexts, where students are nested within classrooms within schools. This approach is important because we know that students who attend the same school are connected, and are more similar to each other than students who attend a different school.

Findings

We now provide findings for each of the research questions, looking first at student achievement, then ELL classification rates, and finally graduation rates. For complete output including all included student and school variables, see the appendix.

Student Achievement

First, we examined student achievement for DLI students across the district as compared to their matched comparison group of non-DLI peers. After controlling for student demographics and school-level effects, **we found statistically significant, positive effects of DLI program on 2016-17 and 2015-16 Smarter Balanced results in both ELA and Math**.

Next, we looked at whether these effects were different for Japanese, Mandarin, and Spanish DLI programs. **We found statistically significant positive effects across all three language programs,**

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[8] Note: When matching, we excluded students who ever attended an international school from our control group pool, since these students may have been exposed to the DLI treatment in the past. Additionally, due to data limitations and design of research questions, not all variables were used in each analysis (e.g., we could not use ELL variable where the outcome was ELL exiting).

although the effects did vary by subject and year. The table below details the statistically significant effects. To get a sense of the magnitude of the effects, the table details the effect sizes for the DLI participation variable. Using literature-based guidance for interpreting effect sizes in the education field (Hill, Bloom, Black and Lipsey, 2007), the effect sizes below (ranging from .14 to .37) can be interpreted as small-to-moderate effects.[9]

Table 12. Cross-sectional student achievement analysis

	ELA 2016-17	Math 2016-17	ELA 2015-16	Math 2015-16
Japanese DLI	No Effect	✓ (.14)	No Effect	✓ (.18)
Mandarin DLI	✓ (.23)	✓ (.37)	No Effect	✓ (.26)
Spanish DLI	✓ (.16)	✓ (.21)	✓ (.19)	✓ (.23)

Note: effect sizes calculated from the unstandardized regression coefficients.

Next, we examined whether DLI is a gap-eliminating strategy by re-running analyses above and limiting our sample to Hispanic/Latino students in Spanish DLI program, as compared to a similar set of students not enrolled in DLI. Consistent with results for overall population of DLI students, **we found statistically significant, positive effects on Math in both years with effect size of 0.29 and in ELA in 2016-17 with effect size of .18 for Hispanic/Latino students in the Spanish DLI program.** While 2015-16 ELA was not significant, the regression coefficient and direction is similar to previous regression results, and thus the non-significant results may be attributable to a smaller sample size for this group.

Table 13. Cross-sectional student achievement -- Hispanic/Latino students

	ELA 2016-17	Math 2016-17	ELA 2015-16	Math 2015-16
Spanish DLI	✓ (.18)	✓ (.29)	No Effect	✓ (.29)

We also looked at whether the effects of DLI program for Hispanic students were different in magnitude depending on low-income status, ELL-status, and whether home language matched the DLI program language (i.e. heritage speakers). **No statistically significant interactions were found, which means that the effects of DLI program, where they exist, are the same magnitude for different student groups**.

Next, we ran longitudinal analyses to examine whether there were effects of DLI program using data that followed 2008-09 Kindergarten students through to 8th grade (2016-17). After controlling for student demographics and 3rd grade achievement, we examined effects of DLI and years in DLI program first on 8th grade SBA results. We then followed a similar approach to the one described above, looking at whether DLI had an effect on 6th grade SBA ELA and Math outcomes using three separate cohorts of Kindergarten through 6th grade students. In addition to using all of the same variables we used in K-8 analysis, we controlled for cohort year. **No statistically significant effects were found of the DLI program or years spent in DLI on 6th grade or 8th grade ELA or Math SBA outcomes**.

ELL Reclassification

To answer the second research question, first we analyzed 2016-17 ELPA21 results using logistic regression to examine whether ELL DLI students had a different probability of exiting ELL status

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[9] The original "rule of thumb" for effect sizes was provided by Cohen (1988) as .20 – small, .50 – moderate, and .80 – strong. However, this rule of thumb is often called into question, as it is not specific to the research field and does not account for context of the evaluation. More recent guidance for interpreting effect sizes in education, based on meta-analyses of 192 experimental and quasi-experimental studies, found that the mean effect sizes typically are in the .20 to .30 range (Hill, Bloom, Black and Lipsey, 2007).

compared to a matched control group. Our analysis found **no statistically significant differences in ELL exit rates between the two groups**.

Next, we used longitudinal data to examine whether DLI students on average spent a different amount of time in ELL program than non-DLI students. Unfortunately, our sample size was too small to be able to run Propensity Score Matching or regressions to answer this question, but we do see descriptive evidence that DLI ELL students on average spend more time in ELL program than do non-DLI students.

Table 14. Descriptive findings on length of time in ELL programs for three K-6 cohorts

	Number of students	Average years ELL
Non-DLI	1172	**4.17**
DLI	154	**4.81**

*Note: Difference in average number of years in ELL is statistically significant, p<.001

As shown above, the average number of years spent in ELL is 4.81 years for DLI students, compared to 4.17 years for matched non-DLI students. However, these numbers should not be interpreted as a causal inference, as we were not able to control for student demographics or school level effects.

Graduation Analysis

Due to difficulties of flagging DLI students in secondary schools (see Limitations section), we chose to instead examine the effects of attending an International School on graduation, regardless of DLI status. In order to stay consistent with current OSPI methodology for calculating graduation rates, we only included students who attended Seattle Public Schools in 9th grade. 6th grade demographics were used as matching variables in the PSM. After analyzing the data using logistic regression, **we did not find any statistically significant differences on probability of graduating High School between our treatment and control groups**.

Limitations

When conducting quasi-experimental design in any setting – but particularly in a dynamic and diverse urban school district – it is important to note the limitations of both the data itself and the analyses run with that data. Below we highlight three limitations: the lack of DLI flags in SPS data systems; inability to control for teacher-level effects, and selection bias.

1. **DLI Flags** – Seattle Public Schools currently does not systematically flag whether students are receiving DLI instruction. DLI flags were added manually by a combination of the following methods:
    1. Students tested using STAMP language proficiency assessment
    2. Students who took Spanish, Japanese, or Chinese Language Arts courses (Middle Schools only)
    3. Students linked to DLI teachers (Elementary only)

    Because of the difficulty flagging DLI students and potentially not flagging some DLI students (e.g., if they did not have STAMP data in elementary), to ensure that we do not accidentally include un-flagged DLI students in our comparison group, we made a decision to exclude from the comparison group any student who attended an international school.

2. **Teacher Level Effects –** Within each school, we have students nested within classrooms and classrooms nested within schools. With the data that we had, we could control for random school level effects, but we did not have flags for which teacher taught which DLI student, so we could not

control for teacher-level random effects. Therefore, results for the DLI program include both teacher effects as well as program effects.

3. **Selection Bias –** We controlled for student demographics and whether a student is attending school in their attendance area; however, we could not control for whether or not a family has *applied* to attend an International School that is also an option school. Prior research has shown that families that self-select to be in a particular school or program are different in many ways from those that do not. We try to control for as many student characteristics as we can, but in the absence of random assignment, there is always a chance that other exogenous variables that correlate with treatment contribute to the effect.

Summary

Key findings from this analysis include:

- **Descriptive data on biliteracy suggests that the majority of students are adequately progressing in learning their partner language.** In Spanish DLI, the vast majority are meeting or exceeding targets for proficiency in all four tested areas: Reading, Writing, Listening, and Speaking. A majority of Japanese and Mandarin DLI students are meeting or exceeding targets in Listening, Speaking, and Writing, but fewer are meeting targets in Reading. This could be attributable to the challenges of learning to read a character-based language.
- **Impact analysis findings demonstrate statistically significant, positive effects on student achievement for students enrolled in all three DLI language programs**, although results vary by year and subject.
- **We found statistically significant, positive effects on Math (.29 effect size) achievement in both years and in ELA achievement (.18 effect size) in 2016-17 for Hispanic/Latino students in the Spanish DLI program.** The effects of the DLI program, where they exist, are the same magnitude for different student groups (ELL, low-income, heritage speakers).
- **Longitudinal analysis – following cohorts of students across multiple years – did not reveal statistically significant effects of DLI enrollment on student achievement or ELL reclassification rates.** However, we do see descriptive evidence that DLI ELL students on average spend more time in ELL program than non-DLI students.

The table below details the six analyses at a high level, including effect sizes where statistically significant effects were found.

Table 15. Summary of overall findings from impact analysis

Analysis	Effect	Effect Size
Cross-Sectional Smarter Balanced Analysis - Overall	Positive	.18
Longitudinal Smarter Balanced Outcomes Analysis (6th grade)	No Effect	n/a
Longitudinal Smarter Balanced Outcomes Analysis (8th grade)	No Effect	n/a
Cross-Sectional ELL Reclassification Analysis	No Effect	n/a
Longitudinal ELL Reclassification Analysis	No Effect	n/a
Longitudinal Graduation Analysis (Int'l School)	No Effect	n/a

Note: Overall effect size is an average across both subjects and years.

DISCUSSION

A key strength of the mixed-methods approach presented in this report approach is that it couples implementation findings with robust quantitative analysis, allowing for deep understanding of programmatic strengths and weaknesses, contextual factors, and impact. Throughout this report, we have provided findings on two related topics: 1) International Schools; and 2) Dual Language Immersion programs nested within these schools. We take particular interest, however, in the efficacy of Dual Language Immersion, as DLI is a definable programmatic intervention as opposed to a whole-school model. In this discussion, we therefore focus on the findings related specifically to DLI.

In our Implementation Analysis (see page 28), teachers identified five benefits of DLI:

1. Written and oral communication in two languages
2. Greater appreciation for other languages and cultures
3. Enhanced career and employment opportunities once done with school
4. Improved academic outcomes for English Language Learners
5. Closing the opportunity gap for students of color

A key question of interest, therefore, is whether this report provides evidence of efficacy for Dual Language Immersion programs in the five areas named above.

1. **Written and oral communication in two languages**. This outcome is aligned to Board Policy No. 277, which states that the promotion of world languages is a core goal of International Schools as a whole. There is evidence, both qualitative and quantitative, that this goal is being met, even during the difficult budgetary situation where more robust professional development, curriculum, and staffing support has not been possible. Although we do not have the means to conduct a robust quantitative analysis of STAMP proficiency due to the lack of a comparison group of students, descriptive data suggests that students are meeting or exceeding proficiency targets.

2. **Greater appreciation for other languages and cultures.** With regard to global perspectives and cultural and global competency, our implementation analyses suggest that, although International Schools are likely not the only schools in the district to integrate these ideals into instruction and

schoolwide initiatives, the International School Model (see page 2) helps schools focus on these concepts and instructional approaches in a meaningful way. Schools requested additional support and professional development to help integrate these concepts into their schools, but also expressed a willingness to serve as exemplars for other schools in the district.

3. **Enhanced career and employment opportunities once done with school.** Qualitatively, we found that parents, teachers, and students all believe DLI to be an enabler of #3 above, namely enhanced career opportunities for students. However, issues of data quality and small sample size prevent us from determining the effect of DLI enrollment on graduation rates, or on postsecondary trajectories or outcomes. Further study is necessary to analyze this question systematically.

4. **Improved academic outcomes for English Language Learners.** As stated throughout the report, there is an increasing interest in the ability of DLI to increase academic achievement for English Language Learner (ELL) students and heritage language students. Despite stakeholders' strong views that DLI programs in the SE and SW pathways are a core gap eliminating strategy for ELL and Heritage Language students, evidence from the impact analyses is inconclusive. Although Hispanic/Latino students enrolled in DLI did show gains in academic performance when compared to a similar group of students not enrolled in DLI, there was no interaction found between DLI and ELL status or DLI and home language. In other words, the effects of DLI program, where they exist, are the same magnitude for ELL and heritage speakers as for other student groups. Furthermore, we did not find evidence that DLI program has any effect on ELL reclassification rates.

5. **Closing the opportunity gap for students of color.** This leads to the question of the degree to which DLI can be considered a "gap eliminating" program. The impact analysis shows that DLI does have the potential to serve as an academic accelerator. We found that DLI students across the district performed better on Smarter Balanced tests compared to their non-DLI peers. We also found that these results stay consistent if we limit the analysis to only Hispanic students in Spanish DLI program. It is also worthy of note that impact analyses do not reveal any *negative* impacts on student achievement for any groups of students or across all enrolled DLI students as a whole. However, we did not find any evidence that DLI program effects are different in magnitude for students of color compared to white students. Where effects exist, all student groups seem to be benefiting from the program to the same degree.

Conclusion

This report provides decision-makers with rich and nuanced information about programmatic strengths, weaknesses, and areas of opportunity. There are also a number opportunities for future analysis that could prove fruitful. One such opportunity is to study #3 above using quantitative methods, tracking students from enrollment in DLI programs through to postsecondary opportunities to determine the more distal outcomes of DLI enrollment. Another, which is dependent on data quality improvements in flagging DLI students and sufficient sample sizes, would be to examine the relative effects of DLI enrollment within a particular feeder pattern or pathway. Finally – and most importantly – it is important to note that this comprehensive review is the first of its kind in the district. Continued investment in program review of district programs and school models will help to benchmark the analyses presented here, contextualizing statistically significant findings here with other models and strategies aimed at improving student academic achievement and eliminating opportunity gaps.

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