Board Special Meeting

Work Sessions: High School Policies 2415 and 2420; 2016-17 Program Review Reports; Executive Session to Evaluate the Performance of a Public Employee

Wednesday, October 11, 2017, 4:30 - 7:30pm
Auditorium, John Stanford Center
2445 3rd Avenue South, Seattle WA 98134

Agenda

Call to Order	4:30pm
Work Session: High School Policies 2415 and 2420	4:30pm
Work Session: 2016-17 Program Review Reports	5:30pm*
Executive Session: To Evaluate the Performance of a Public Employee (added to agenda on 10/10/17)	7:00pm*
Adjourn	7:30pm*

*Special meetings of the Board, including work sessions and retreats, may contain discussion and/or action related to the items listed on the agenda. *Times given are estimated.*

To: Seattle School Board
From: Caleb Perkins, Director of College and Career Readiness
Date: October 6, 2017
RE: October 11th Board Work Session on Policies 2415 and 2420

Introduction: The following memorandum is meant to serve as an introduction to the October 11th Work Session presentation to the School Board.

Purpose: As it states in the draft Board Action Reports for Policies 2415 and 2420 being submitted to the C&I Policy Committee, district staff is proposing edits to the Board Policies No. 2415 and 2420 in order to respond to changes in State law and the recommendations from the 24-Credit Task Force. The proposed edits address the need to ensure district policy matches state policy and gives school staff the flexibility they need to support students in graduating from high school ready for college and career.

Background: In March 2015, the District created a 24-Credit Graduation Requirement Task Force to study how the District should respond to changing state requirements for graduation. Specifically, the Task Force recommended revising Board Policy No. 2415 by removing the 2.0 GPA requirement. Given the increased credit requirements and the implementation of state exit exams in the time since the SPS GPA requirement was instituted, the Task Force felt the 2.0 requirement serves as an unnecessary barrier to graduation.
In addition, the Task Force recommended that we rewrite the Board Policy No. 2420 eliminating all references to a high school credit being equivalent to 150 hours of planned instructional activity. This is consistent with the State Board of Education's recommendation for a "non-time-based" policy on credit earning since this approach would:

- Place the focus on student-centered learning.
- Allow districts more flexibility to meet the increased credit requirements.
- Allow districts to determine, and individualize, how much course time is needed for students to meet the state's standards.

Districts may now stipulate in policy their own definition of a credit as either earned by a passing grade or earned through competency and mastery.

Next Steps: The district plans to bring the proposed edits to Policies 2415 and 2420 to the October 10th C&I Policy Committee and the October 11th Board Work Session. Discussion and action are required based upon meeting the 24-credit graduation requirements and ensuring that students receive all the support they need to graduate on time.


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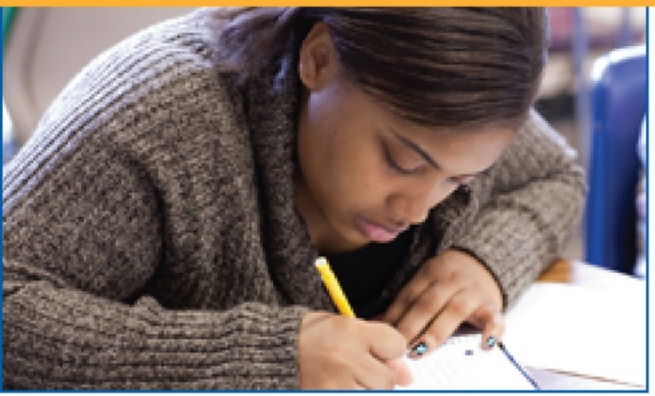

Photos by Susie Fitzhugh

Board Policies 2415 & 2420

School Board Work Session – October 11, 2017

Work Session Objectives:

- Inform on:
  - The timeline for secondary re-visioning and the transition to 24 credits.

- Seek input on:
  - Proposed changes to Board Policies 2415 and 2420.

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Key Messages:

- The 24-credit task force involved a large number of community members and resulted in recommendations for specific policy changes.

- There are components of 2415 and 2420 that are outdated given changes in state policy. We want to align these policies with new state policy and respond to the task force's recommendations.

- Changing these components will put our high schools in a better position to help all students meet graduation requirements and engage in deep learning.

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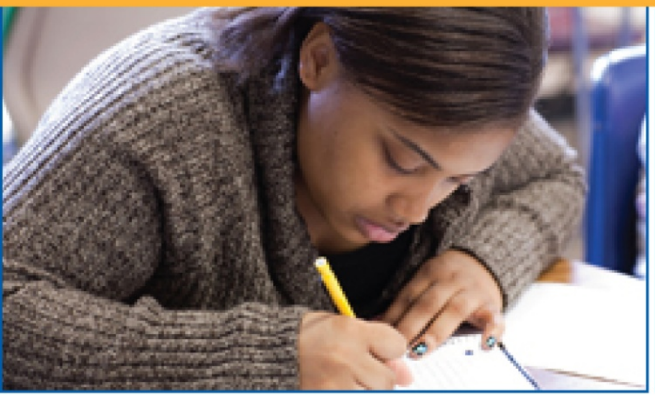
Purpose



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Why do we need to consider changing policies to support our efforts to transform teaching and learning in our high schools?

How Do the 24-Credit Graduation Requirements Add Up?

17 Core Credits + 3 Personalized Pathway Requirements

- **4** English
- **3** Math
- **3** Science
- **3** Social studies
- **1** Career and Technical Education
- **2** Health and Fitness
- **2** Arts
  - 1 Arts
  - 1 PPR
- **2** World Language
  - 2 PPR

\+ **4 Elective Credits** =

24 Credit* Career- and College-Ready Graduation Requirements for the Class of 2019 & Beyond

PPR = Personalized Pathway Requirements: Three locally determined courses that lead to a specific post-high school career outcome chosen by the student, based on the student's interest and High school and Beyond Plan.

***For individual students, 2 credits may be waived**: A district must adopt a written policy to waive up to 2 credits of the 24, based on the student's 'unusual circumstances.'

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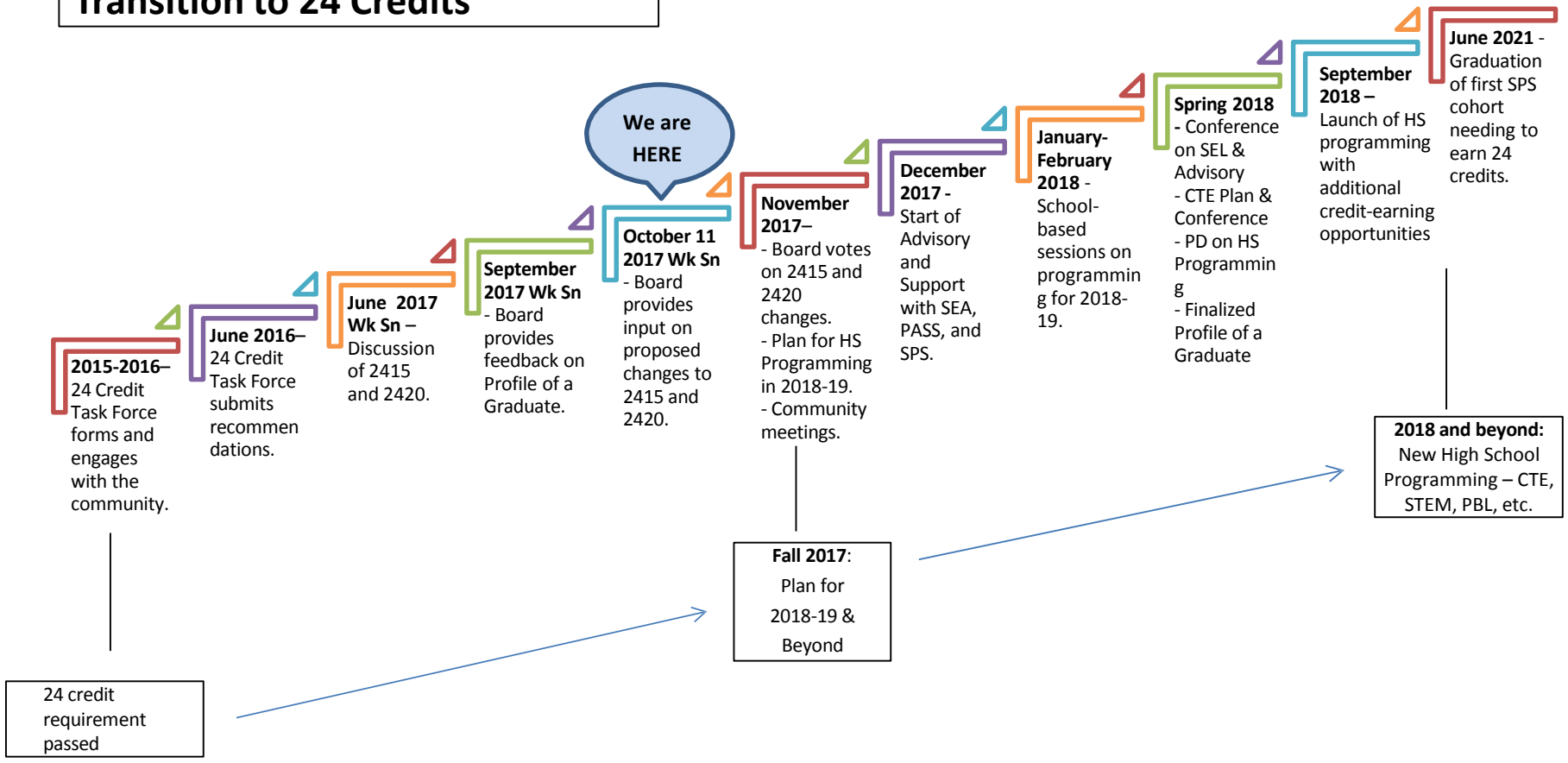
TIMELINE for Secondary Re-visioning & the Transition to 24 Credits



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*Every **Student**.*

*Every **Classroom**.*

***Every Day**.*

Community Engagement

- The 24-Credit Task Force engaged with the community extensively. For example, the task force committees' outreach and data collection activities included:
  - 19 student focus groups at nine high schools involving more than 650 students
  - A family survey sent to middle and high school families (and open to elementary families) with over 1,500 respondents
  - Two community meetings
  - Spring survey offered to all secondary staff regarding schedule attributes and features.

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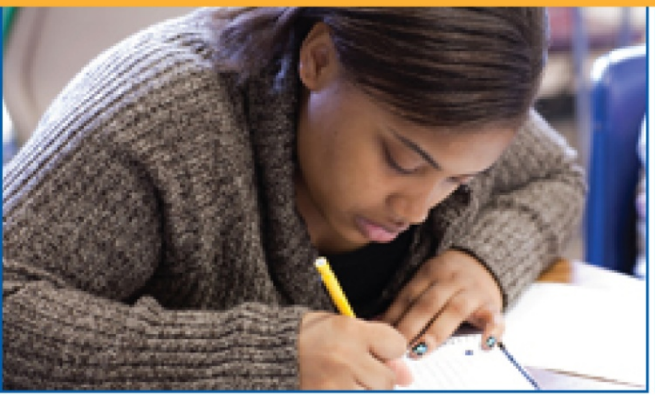
Key Policies



Photos by Susie Fitzhugh

What policies do we need to revisit? **What** changes to the these policies should we consider?

Key Policies & Proposed Changes

- 2420
  - Remove 150 hours per credit requirement
- 2415
  - Remove 2.0 GPA requirement

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Recommendation for 2420: Remove the 150 hours per credit requirement

Reasons:

- More students will need additional opportunities to earn credit with the increase to 24 required credits.
- Schools need flexibility in ensuring students have ample opportunities to earn credits.
- The state does not require 150 hours per credit.
- This was recommended by the 24 Credit Task Force.

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Recommendation from the 24-Credit Task Force: Remove the 150 hours per credit requirement

Reasons - **The State Board of Education:**

- Changed the 150 hours time-based definition of a credit in 2011 to:
  - Place the focus on student-centered learning.
  - Allow districts more flexibility to meet increased credit requirements.
  - Allow districts to determine, and individualize, how much course time is needed for students to meet the state's standards.
- Allowed districts to define a credit as either earned by a passing grade or earned through competency and mastery.

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Recommendation from the 24-Credit Task Force: Remove the 150 hours per credit requirement

Anticipated Effects:

- Existing rigorous course work will continue.
- Schools will have opportunities to provide additional credit-earning opportunities.

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Recommendation for 2415: Remove the 2.0 GPA Requirement

Reasons:

- Since Seattle Public Schools added the 2.0 GPA graduation requirement,
  - there are measures of student academic performance to demonstrate academic proficiency.
  - Seattle is one of only two districts in the state that require a minimum GPA.

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Recommendation for 2415: Remove the 2.0 GPA Requirement

Reasons:

The 2.0 GPA graduation policy language presents several challenges and unnecessary barriers to graduation:

- It creates multiple calculations for a student's GPA, a school transcript GPA that includes "E" grades in the weighting, and a graduation GPA that does not. As a result, students who have enough credits to graduate may find it more desirable to fail a class than pass with a "D".
- Students could have a core GPA of 2.1 and still not graduate if their cumulative GPA falls below 2.0.
- Students may pass every class required for graduation by the state and not be eligible to graduate.
- Because "E" grades are dropped from the district graduation GPA calculation, many students currently meet the GPA requirement without a true 2.0 GPA.

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Recommendation from 24-Credit Task Force: Remove the 2.0 GPA Requirement

Reasons:

- The 24 Credit Graduation Requirement Task Force considered these problems and challenges and recommended revising Board Policy No. 2415 by removing the 2.0 GPA requirement. Seattle Public Schools staff agree.

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Recommendation from 24-Credit Task Force: Remove the 2.0 GPA Requirement

Anticipated Effects:

- Number of affected students
- Student stories

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Challenges Ahead

- Transitioning to the 24-credit graduation requirement involves changes to high school programming so that students receive the opportunities and support they need to graduate on time.

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Next Steps

- October 10th – Introduction of BARs on 2415 and 2420
- October 11th – Work Session on 2415 and 2420
- November 1st – BARs on 2415 and 2420 Introduced
- November 15th – Vote on 2415 and 2420 Changes

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Program Review: International Schools/ Dual-Language Immersion

October 2017

Jessica K. Beaver, PhD

Anna Cruz

Research & Evaluation Department

Program Review Overview

- Logic model
- Description of program
- Demographics of students served/equity analysis

- Implementation fidelity
- Stakeholder feedback and perceptions
- Cost summary

- Descriptive outcomes
- Impact analysis

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Data Sources

Student-level data analyses

Interviews with all 10 International School principals
Site visits to five International Schools

Survey of all teachers across all 10 International Schools

Cost Summary

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Site Visit Summary Findings

Cost Summary

INTERNATIONAL SCHOOLS

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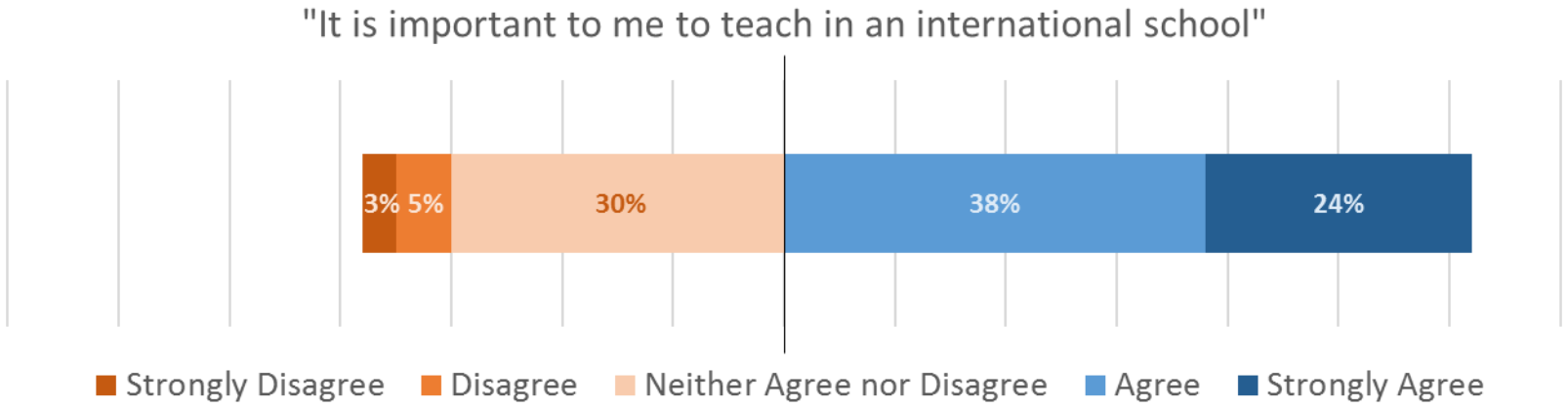
Teachers, students, and parents highly value International Schools



"[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

"It is a big privilege for our children to be here." – Parent

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International Schools can serve as district exemplars in "cultural and global competence"

"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." – Principal

"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." – Teacher

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Stakeholders want district supports/resources for a common vision for International Schools

Desired supports:

- Fund the International Schools Leadership Team (ISLT)
- Reduce barriers to receiving International Education category
- Provide structured time for teachers to collaborate and plan

"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." – Teacher

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There are five categories of district support for International Schools

1. Start-Up Funding
   - $15,000 for pre-planning activities
   - $100,000-$130,000 (depending on school size) for initial year of implementation
2. Central Office Support
   - ~ $155,000 annual cost (salary, benefits, internal departmental budget)
3. International Schools Leadership Team
   - 2016-17: $156,439 across both staff and funding for professional development
   - 2017-18: No funding
4. Grants
   - NW relies mainly on LAP, PTA - for IA support, general school activities
   - SE and SW rely main on City Levy, Title I - for IA support, programs
5. Staffing Mitigation
   - For 2016-17, 6.0 FTE were requested across six schools for $585,579 total

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DLI Models

Perceptions of Implementation and Outcomes

Outcomes and Impact Analysis

DUAL LANGUAGE IMMERSION

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DLI Models vary across schools

	DLI Languages Offered	% students in DLI	% Heritage Language Students
Northwest Region			
John Stanford International School (K-5)	Spanish, Japanese	100%	23%
McDonald International School (K-5)	Spanish, Japanese	100%	40%
Hamilton International Middle School	Spanish, Japanese	18%	13%
Ingraham International High School	Spanish, Japanese	n/a	n/a
Southwest Region			
Concord International School (K-5)	Spanish	68%	62%
Denny International Middle School	Spanish	20%	82%
Chief Sealth International High School	Spanish	10%	94%
Southeast Region			
Beacon Hill International School (K-5)	Spanish, Mandarin	71%	60%
Dearborn Park International School (K-5)	Spanish, Mandarin	43%	6%
Mercer International Middle School	Spanish, Mandarin	11%	64%

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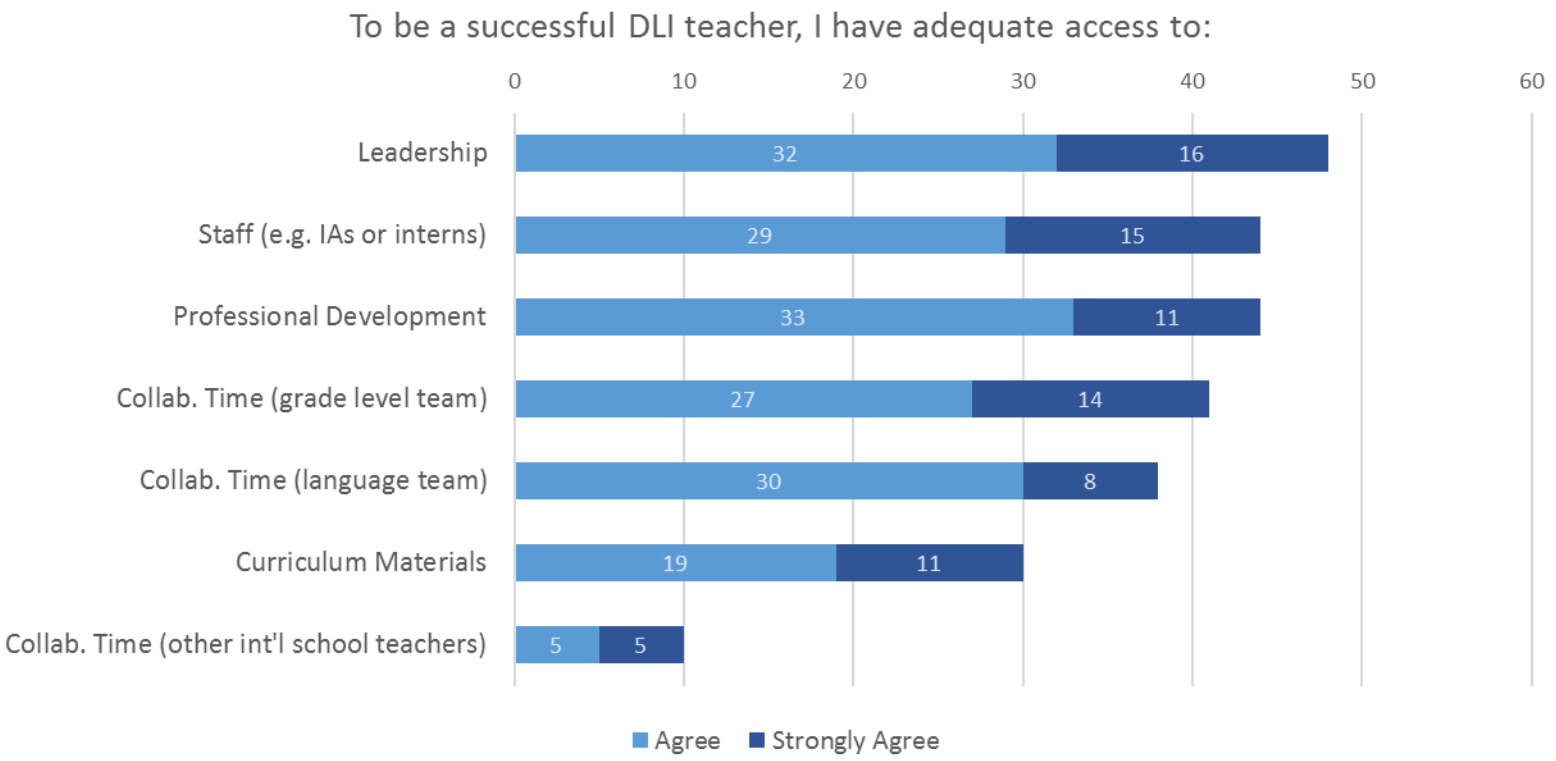
Teachers want curriculum support, PD, collaboration time



"We are constantly developing our own curriculum. We are trying to make something out of nothing." – Teacher

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Teachers' 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 once done with school
4. Improved academic outcomes for English Language Learners
5. Closing the opportunity gap for students of color

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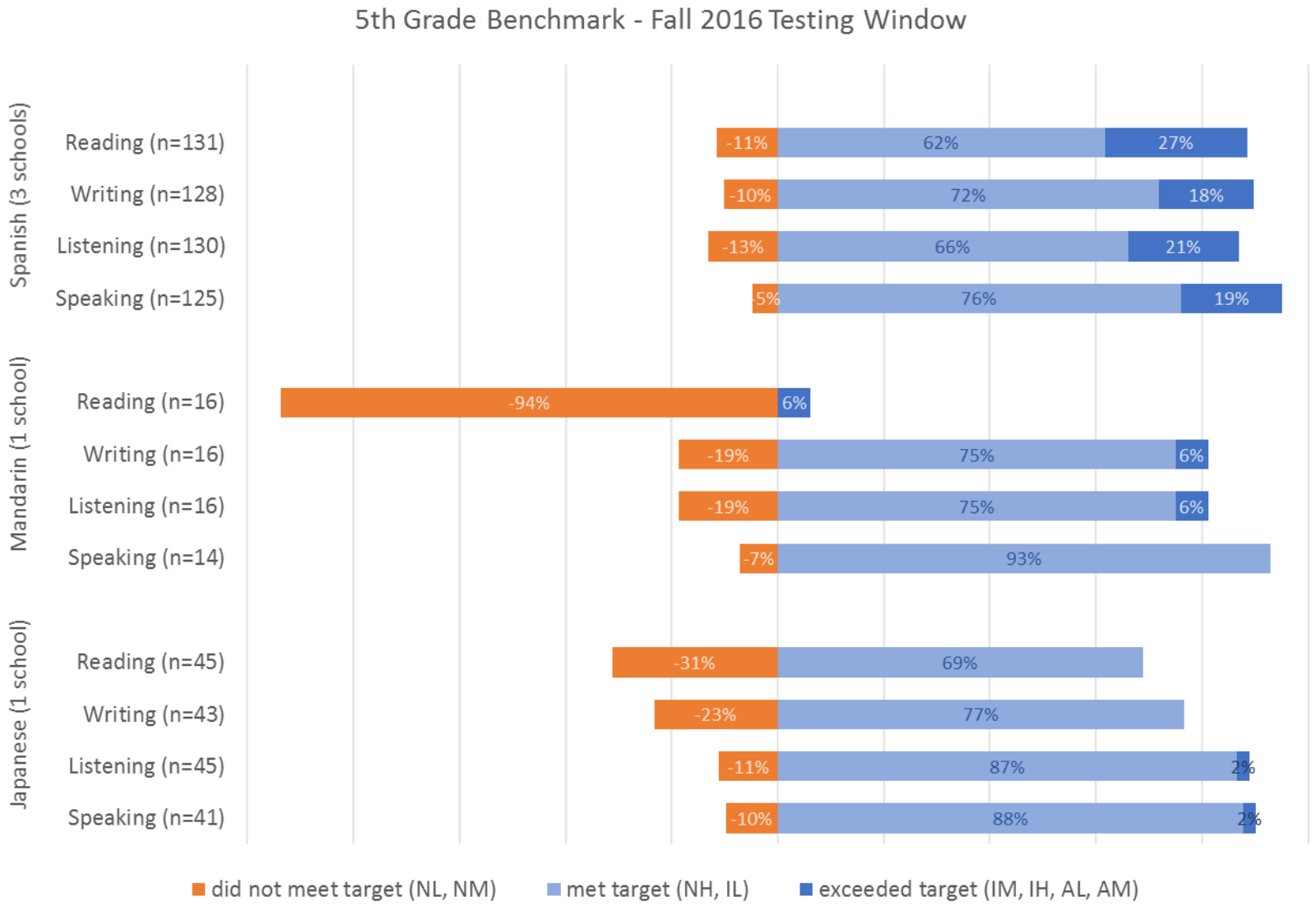
1. Written and Oral Communication in Two Languages



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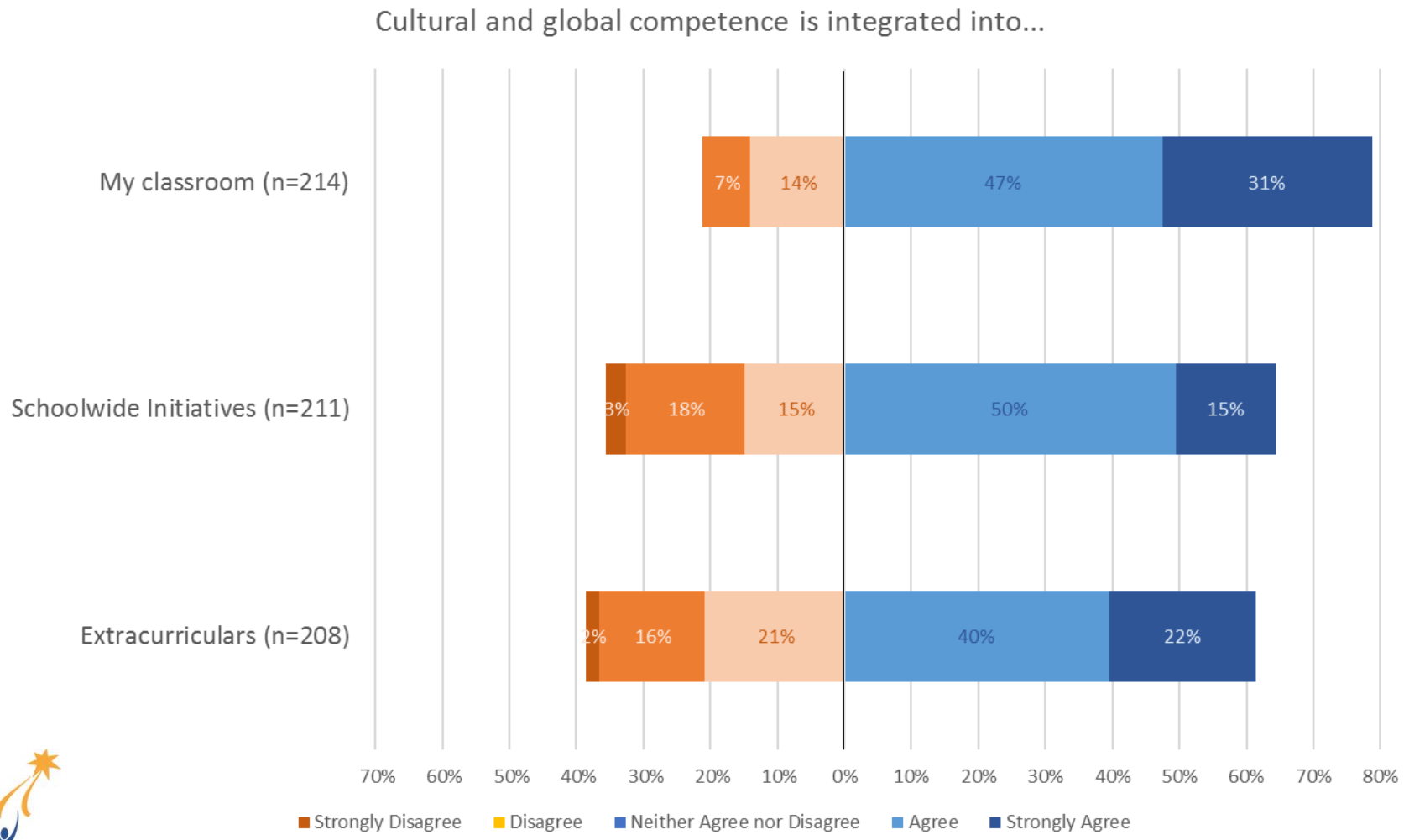
2. Greater appreciation for other languages, cultures



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3. Enhanced career/employment opportunities

Teachers and students note the importance of DLI as a pathway to earning college credits

"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

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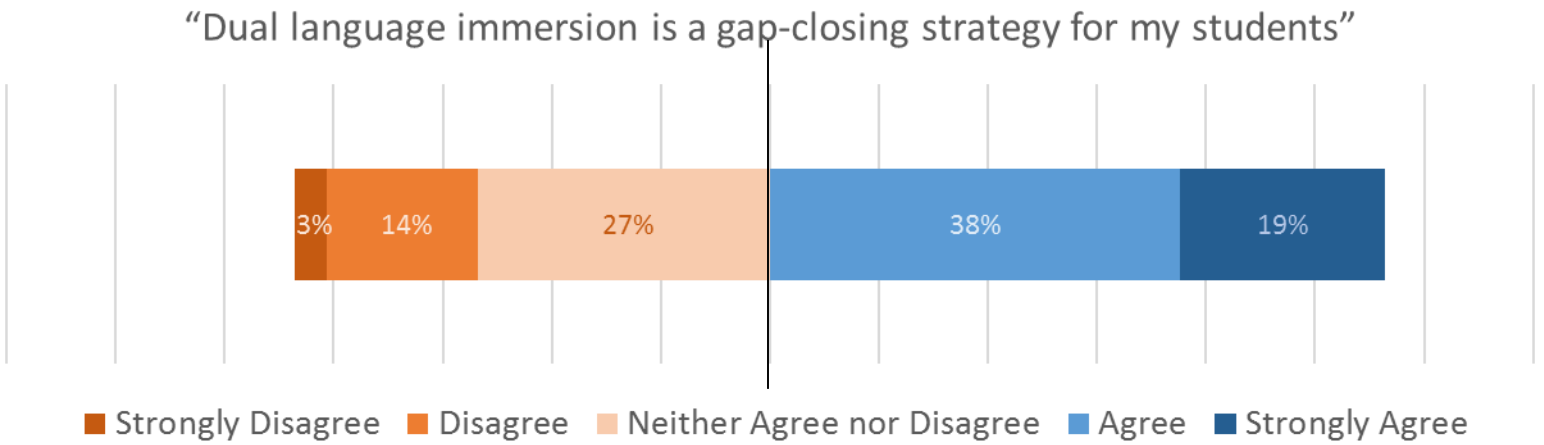
4. Improved academic outcomes for ELLs
5. Eliminating Opportunity Gaps



"Students realize the importance of having the opportunity to join a program that will promote their culture, their heritage language. Students feel connected, parents feel connected, and students are given multiple opportunities to be successful." – Teacher in SW Pathway school

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Impact Analysis Research Questions

1. What is the effect of DLI on student achievement in ELA and math?
    - Differences by immersion program language
    - Differences by race, home language, low-income status, ELL status
2. What is the effect of DLI on ELL reclassification?
3. What is the effect of DLI on high school graduation?

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Impact Analysis Methods

- Propensity Score Matching (PSM) used to select a control group with similar student demographics

  - ✓ Gender
  - ✓ Race/Ethnicity
  - ✓ Home Language
  - ✓ Grade
  - ✓ Free & Reduced Lunch (FRL)
  - ✓ Special Education
  - ✓ Highly Capable (gifted)
  - ✓ English Language Learner (ELL)
  - ✓ ELL Exited
  - ✓ ELL Placement Level
  - ✓ Homeless
  - ✓ Mobility
  - ✓ Attending neighborhood school
  - ✓ 3rd grade MSP

- Multilevel regressions used to analyze the effects of DLI on the outcomes
- Limitations: DLI flags, teacher-level effects, selection bias

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Research Question #1
Student Achievement

- We found statistically significant positive effects across all three language programs, although the effects did vary by subject and year

	ELA 2016-17	Math 2016-17	ELA 2015-16	Math 2015-16
Japanese DLI	-	✓ (.14)	-	✓ (.18)
Mandarin DLI	✓ (.23)	✓ (.37)	-	✓ (.26)
Spanish DLI	✓ (.16)	✓ (.21)	✓ (.19)	✓ (.23)

- Effects for Hispanic/Latino students in Spanish DLI program are statistically significant in Math in both years and in ELA in 2016-17

	ELA 2016-17	Math 2016-17	ELA 2015-16	Math 2015-16
Spanish DLI	✓ (.18)	✓ (.29)	-	✓ (.29)

- Interactions of DLI and ELL, DLI and Low Income, and DLI and Heritage Speaker were not significant

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Research Question #1
Student Achievement (continued)

Longitudinal Analyses

- K-8 Cohort Analysis
  - 2008-09 Kindergarten through 2016-17 (120 students)
- K-6 Cohort (3 separate cohorts)
  - 2010-11 through 2016-17, 2009-10 through 2015-16 and 2008-09 through 2014-15 (389 students)
- No statistically significant effect of DLI or years in DLI after controlling for student demographics and 3rd grade achievement (MSP)

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Research Question #2
ELL Reclassification

- Using logistic regression, we analyzed 2016-17 ELPA21 results to test whether DLI students had a different probability of exiting ELL program
  - No statistically significant differences in ELL exit rates between DLI and matched controls
- Cohort data was used to look at whether DLI ELL students took more or less time (in years) to exit the ELL program
  - Descriptive evidence that DLI ELL students spend more time in ELL program than non-DLI ELL students

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

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Is DLI a "Gap Closing Strategy"?

- DLI does have the potential to serve as an academic accelerator
  - Comparing DLI students to non-DLI students
  - Comparing Hispanic DLI students to Hispanic non-DLI students
- 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
- No evidence that DLI program effects are different in magnitude for students of color compared to white students

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Program Review: Advanced Learning/ Spectrum

October 2017

Eric M. Anderson, PhD
Research & Evaluation Department

Outline

1. Phase I: Descriptive Analysis

- Background
- Student data
- Key issues raised by stakeholders

2. Phase II: Design Study

- Research design
- Service delivery models
- Instructional strategies (pedagogy)

3. Conclusions

- Literature Review
- SPS current state
- Recommendations

Background

Student data

Key issues raised by stakeholders

DESCRIPTIVE ANALYSIS

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Background

Highly Capable Cohort (HCC)

- Seattle Public Schools offers Highly Capable Services for students who have been evaluated for and designated as Highly Capable. The Highly Capable Cohort (HCC) is a self-contained service option available to HC students in grades 1-8.

Advanced Learning: Spectrum

- The Spectrum program was launched by SPS as a second tier program for advanced students who did not meet the eligibility criteria for Highly Capable.[1] Originally designed to mimic the format of HC services, Spectrum students were offered self-contained services at regional Spectrum sites and all middle schools.

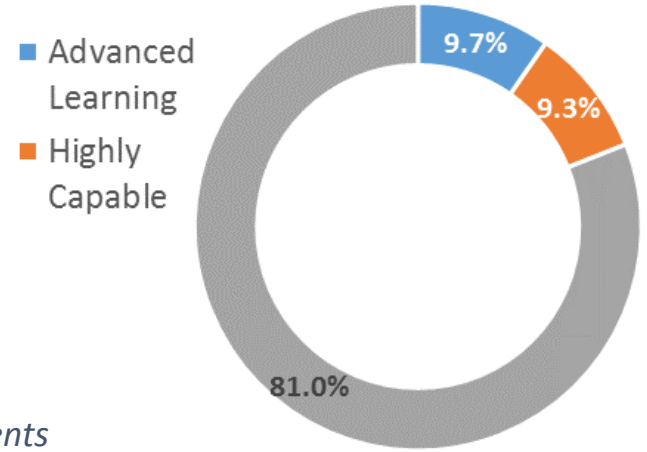
- Since the 2016-17 school year, the regional Spectrum elementary and K-8 sites no longer offer full time self-contained classrooms for identified students.

[1] Eligibility criteria are set by each District. For HC, SPS requires cognitive scores at or above the 98th percentile and achievement scores (math and reading) at or above the 95th percentile. For Spectrum/Advanced Learners, the criteria are 87th percentile in both cognitive and achievement.

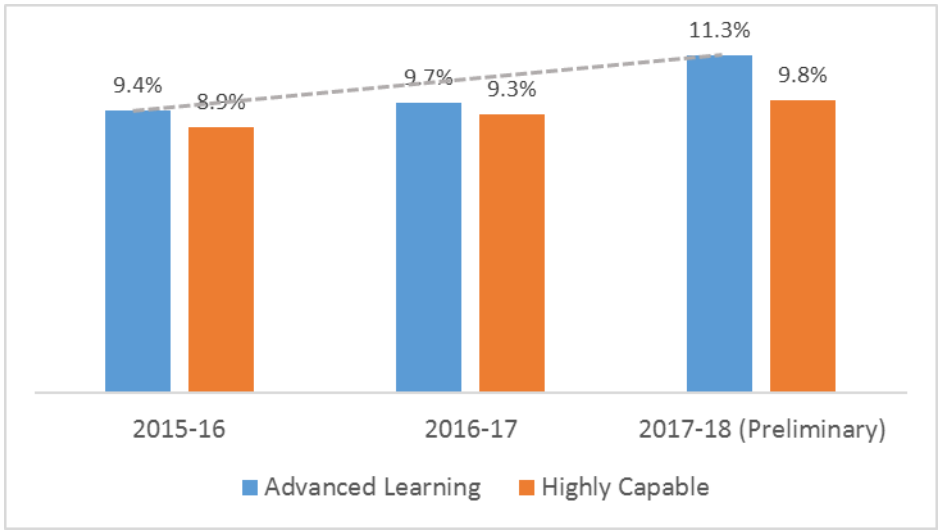
Student Data: Enrollment

One in five SPS students (20%) identified as eligible for Advanced Learning (2016-17)

2016-17 Advanced Learning Eligibility, Grades 1-12



Percent of Advanced Learning and HC Eligible Students

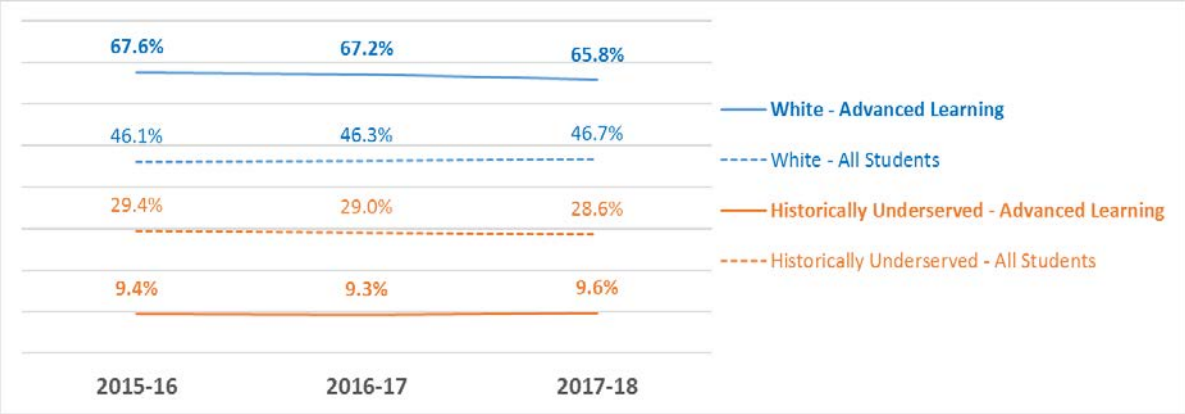


Percentage of AL/HC eligible students is increasing (based on projections for 2017-18)

Student Data: Enrollment

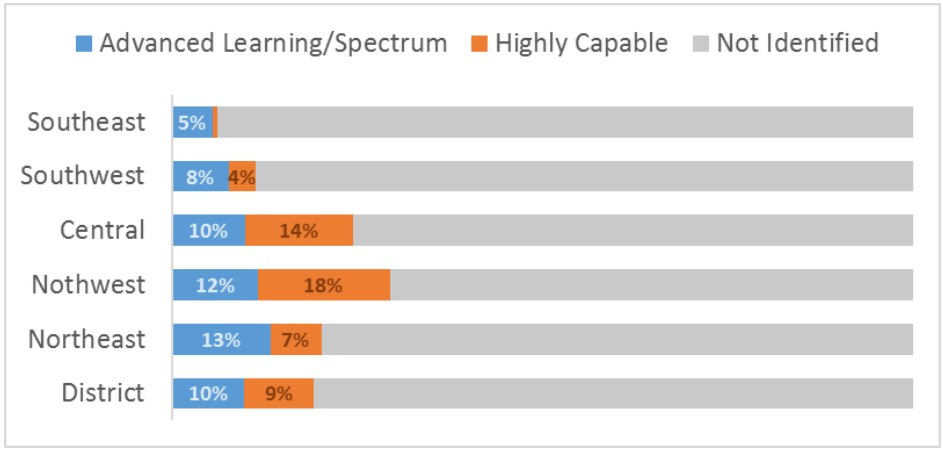
Disproportionality between white students and historically underserved students has marginally decreased since 2015-16.

Proportion of White and Historically Underserved Students (3-Year Trend)*



**Historically Underserved: Black/African American, Hispanic/Latino, Native American, Pacific Islander*

Advanced Learning Eligibility by Region, 2016-17



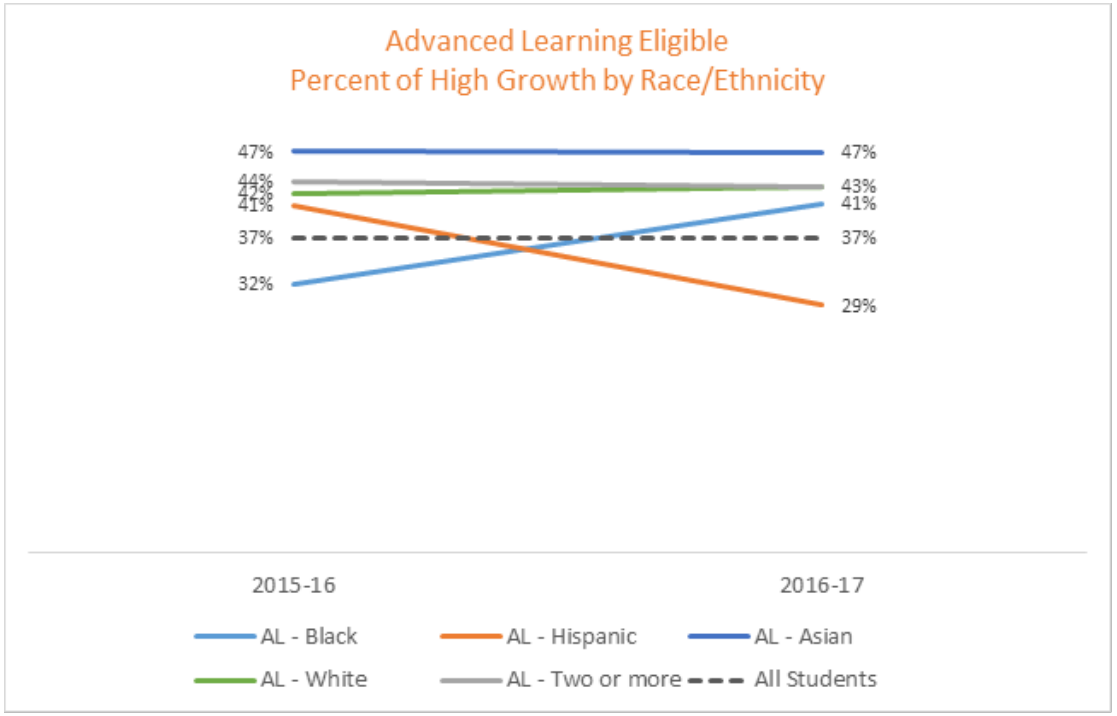
Northwest region has the highest concentration of AL/HC students (30%), while the Southeast region has the lowest (6%).

Student Data: Achievement

- Proficiency rates for AL/HC identified students are over 90%. Historically Underserved AL eligible students perform equally as White and Asian peers.

- Lower percentages of AL-eligible Black and Hispanic students achieve high growth on SBAs. In 2015-16 only 32% of Black AL students were “high growth (n=95), and in 2016-17 only 29% of Hispanic AL students were high growth (n=139). These results are lower than the district average for ALL students (37%)

Advanced Learning Eligible Percent of High Growth by Race/Ethnicity



Key Issues Raised by Stakeholders

Stakeholders want…

1. High quality, rigorous instruction for students not in self-contained environments
2. Solutions to ensure racial equity within Advanced Learning
3. A cohesive plan to guide the future of Advanced Learning programs and supports

District actions…

1. Program Review focused on improving instruction and programmatic design
2. Array of approaches implemented by Advanced Learning to improve equity
3. Board approved Action Plan for Advanced Learning

Key Issue: Ensuring Equity

Strategies employed in 2016-17 to increase access to Advanced Learning programs

Identification Strategies	Professional Development and Outreach Strategies
• Each and every student was able to test for eligibility; there are no pre-qualifications • Scrutinized referrals from ELL students for characteristics such as rapid language acquisition • Expanded referral window • 2nd grade targeted universal testing at 32 Title I elementary schools; invitations for continued screening extended to 67 parents • Follow up testing completed at Title I students' school sites during the school day • "Special consideration" in the eligibility process as noted in our Superintendent Procedures and practiced by the MSC (Multidisciplinary Selection Committee) • Current teachers may recommend students for testing, triggering an invitation to parents to refer. Email and phone follow-up if no response to invitation.	• Differentiation workshops at the central office and satellite sites • Collaboration with the Rainier Scholars Program (contacted applicants to generate referrals for previously unidentified high potential students of color) • Site visits and presentations to Title I schools regarding identification and referral of students for AL services • Website information and videos and disseminated to local and social media outlets • Eligibility forms and first day packet announcement (translations in nine languages) • AL representation on the Equity and Race Advisory Committee (ERAC) • AL representation on the Southeast Seattle Education Consortium (SESEC)

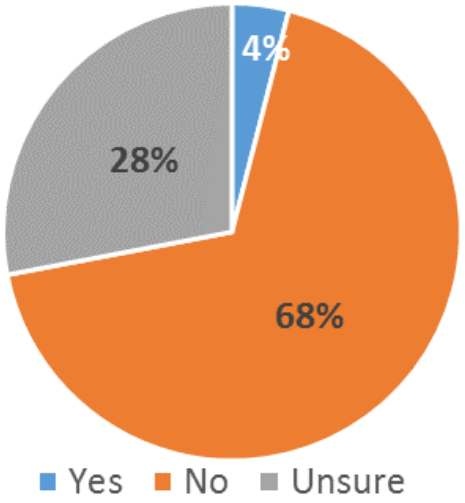
Principal Perspectives

Should the district should continue to designate schools as Spectrum sites?

Only 4% of principals said the District should continue designating certain schools as "Spectrum schools."

Principals cited two main concerns:

- Maintaining the Spectrum site designation perpetuates inequities, benefiting families privileged in terms of race and income.
- All schools should be able to accommodate advanced learners within a Multi-Tiered systems of Supports (MTSS) framework.



Research Design

Service Delivery Models (Programs/Grouping)

Instructional Strategies (Pedagogy)

DESIGN STUDY:
Findings from Literature Review and School Site Visits

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Design Study: Focus/Purpose

- **Focus**: how best to meet the learning needs of academically advanced learners?
  - What does the academic research say?
  - How do SPS school leaders and educators approach this?
  - What are the challenges – and are we currently successful?

- **Purpose**: provide a research-basis for improving instruction and programs for advanced learners
  - How can we better support school leaders, educators, and students?
  - What investments (curriculum, training, etc.) may be necessary?
  - What are the implications for implementing MTSS in every school?

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Research Design

Literature Review

- Partnership with UW College of Education – Dr. Nancy Hertzog, Dr. Sakhavat Mammadov
- *Key Question*: What are identified research-based instructional best practices to ensure advanced learners are challenged, engaged in learning, and achieving strong academic growth?

School Site Visits

- Seven (7) schools selected based on high growth for Level 4 Students (SBA)
- *Data Collection:* Interviews with principals and teachers; focus groups with students
- *Key Question*: How do our schools meet the needs of students above or well above standard? To what extent are they successful?

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Service Delivery Models

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Administrative Structures

State of Washington provides four different administrative structures for creating specialized services for identified highly capable students:

- **General Education Classroom-Based Services/Programs**
  - e.g., Ability grouping (clustering), Differentiation strategies
- **Acceleration Services/Programs**
  - e.g., Accelerated course sequences, “Walk-to-Math”
- **Unique Highly Capable Program (HCP) Services**
  - e.g., self-contained classrooms, HCP schools
- **Non-Traditional Services/Programs**
  - e.g., mentorships, partnerships (e.g., higher education)

SEATTLE PUBLIC SCHOOLS

Acceleration

LITERATURE

Two general categories of academic acceleration:

(a) Subject-based acceleration, which exposes students to advanced content and skills before their expected grade level, and

(b) Grade-based acceleration, which comprises options for students to skip the grades in the K-12 school system (Rogers, 2015).

- Research has shown that academic acceleration is educationally appropriate and necessary (Colangelo & Davis, 2003; Lubinski, 2004).
- Although the research on acceleration is overwhelmingly positive, decisions about individual students must be made with caution (Rogers, 2015).
- Assessment practices are critical for informing instructional decisions, including acceleration

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Ability Grouping

LITERATURE

Neihart (2007) defined **ability grouping** as "any arrangement that attempts to place students with similar levels of ability in instructional groups"

- Academic benefits for advanced learners are well-documented, but ability grouping is controversial and practitioners should be cautious.
  - *Methodologically flawed studies*
  - *May ignore detrimental psychosocial outcomes* – e.g., student self-perceptions may decrease with a highly capable social reference group
  - *Link-minded fallacy*: It is a misnomer to think that gifted students have to be with other gifted students to feel connected.
- **It is the quality of instruction and instructional resources** that impacts students' academic growth the most (Neihart & Yeo, 2018).

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Ability Grouping

SITE VISITS

Many SPS schools use a **Walk-to-Math** model for AL students.

- Parents advocate for it. Schools often view ability grouping as beneficial to advanced learners and easier for teachers.
- Some schools are trying to scale it back for various reasons…
  - *The principal) doesn't want to have as many walk to math … The continuity of keeping your own kids (all day) is a lot more beneficial for many of the kids.*
  - *Walk-to-Math gives kids the impression that smartness is fixed …*
  - *When kids experience a racially segregated school, then they start to question what does the school believe about me, because I don't see any kids like me in that class.*

Most teachers use some form of **ability grouping** in heterogeneous classrooms, particularly small group instruction and stations or centers

- *I often pull a small group that's ready for something more challenging … and have them work on that instead of the daily assignment.*
- *In my math stations I have them grouped according to ability…. So that they automatically enter at a point that's challenging them …*

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Instructional Strategies (Pedagogy)

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Deeper/Inquiry Based Learning

LITERATURE

- A great deal of research supports **inquiry learning pedagogies** for all students (Hertzog, 2017).
- Different modes of inquiry elevate thinking and problem solving (VanTassel-Baska, 2012).
- **Higher level questioning strategies** are effective with all students, but crucial for advanced learners (VanTassel-Baska & Brown, 2007).
- **Authentic problem solving** helps students to understand real world applications is desirable for advanced learners (Tomlinson et al., 2002).
  - Authentic **mathematical problem-solving tasks** have the highest level of challenge for all students (Lesh & Zawojewski, 2007).
  - Research has shown that **"practicing as professionals"** is an important means of motivating students in a given subject area (Mammadov & Topcu, 2014).

SEATTLE PUBLIC SCHOOLS

Deeper/Inquiry Based Learning

SITE VISITS

- **Deeper Learning**: Some teachers emphasized the importance of going deeper within grade level rather than skipping too far ahead.

- Teachers described using **project based learning** to engage students.
  - *The project is to apply a system of equations… It ties a lot of the learning we've done mathematically into this project, so it's so relevant ... it's very structured.*
  - *Something we did school wide this year was engineering challenges, which we saw a lot of our more advanced learners really rise to the occasion and be really engaged*

- Students in every school expressed interest in more **hands-on projects**
  - *I really like to have a hands-on learning experience, like building and engineering.*
  - *Most of the time, we just use paper and a pencil… Last year, one of my favorite science units was models and designs because there was so much hands on stuff.*
  - *I like big projects … where you get a lot of independence*

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Enhanced Student Autonomy

LITERATURE

- Students have a **need for autonomy** to thrive in learning settings
  - Autonomy is an important precursor of academic motivation.
  - When a student is intrinsically motivated, creative outcomes are most likely to occur.
  - To be intrinsically motivated students should have choices in their learning.

- Students benefit when teachers support their autonomy (Reeve, Ryan, Deci, & Jang, 2008). Reeve et al. (2008) listed **empirically validated teacher behaviors to support student autonomy**. *For example*:
  - Spending time listening to students' voice during instruction
  - Asking what the students need
  - Allowing time for students to work independently and in their own way
  - Being responsive to student-generated questions, comments, suggestions, etc.

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Enhanced Student Autonomy

SITE VISITS

- Some students expressed that they like **independent, self-directed learning** opportunities.
  - *I like independent work where you're not really following the teacher, you're kind of doing it on what you think.*
  - *It's not really a lecture or where you have to listen to the teacher talk for half of the time. ... Your just given directions and you kind of go on your own in your own way and everyone has different outcomes to anything we do.*
- Several teachers emphasized **student self efficacy** and **growth mindset** in defining success for advanced learners
  - *They not only track their own growth, but they're setting the goals.*
  - *They realize that they are in control of their own learning, with my help.*
  - *Having them advocate for themselves… so that when they get to high school they can really be successful.*

SEATTLE PUBLIC SCHOOLS

Differentiation

LITERATURE

The National Association for Gifted Children defines differentiation as "modifying curriculum and instruction according to content, pacing, and/or product to meet unique student needs in the classroom"

- One of the primary factors affecting the lack of differentiation in classrooms is the **lack of teacher training**.
- Teachers **tend to focus on differentiating for struggling students**, not advanced students (Inman & Roberts, 2018).
- Teachers should consider **differences in student interests and motivation** when differentiating instruction (Tomlinson et al., 2003).
- **Student autonomy** to select their own project topics and share their ideas about makes them more engaged (Wolfe, 2001).

SEATTLE PUBLIC SCHOOLS

Differentiation

SITE VISITS

Teachers raised several challenges differentiating for advanced learners

- The **wide range of skills**, even among AL students, can create challenges
  - *It can be difficult to keep some kids challenged. There are some bright kids... some of are off the charts ... There's a lot of different learning styles.*
- Some focused on the **lack of clear strategies, resources, and training**
  - *I would like to see more trainings on differentiation that's by content area*
  - *Teachers want to make sure kids at all levels are challenged … but it comes down to resources, ideas, strategies. If you don't have them, you won't teach them…*
- Others emphasized that **not all teachers are equally effective**
  - *I think that every teacher thinks differentiation is part of their job responsibilities… Some are better at it than others. Some it comes more naturally than others.*

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Personalized (Adaptive) Learning

LITERATURE

According to the U.S. Department of Education (2016), personalized learning refers to "instruction in which the pace of learning and the instructional approach are optimized for the needs of each learner."

- **Adaptive learning** provides personalized learning, assessment, and feedback through the use of technology (Moeller & Reitzes, 2011).
- Research suggests that students, regardless of age, are **motivated to learn new technology-based tasks** (Bruder, Blessing, & Wandke, 2014).
- Technology can support students who've mastered the content and need **opportunities to work on more advanced topics** and tackle more difficult problems.

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Personalized (Adaptive) Learning

SITE VISITS

- About a third of teachers discussed the use of technology/software-based tools to support differentiation
  - *I think (technology) allows for a lot more differentiation. For example, everybody can be using one program or one app and it's the teacher is pre-selecting which level is right for each kid, so that it's automatically differentiated for the kids*
  - *They're so much more engaged (online). I can give them the same problem … on (a computer), and all of a sudden this is the most exciting problem they've ever done ...*

- One principal explained that technology makes it easier for teachers – alleviating the need to create unique assignments for each student
  - *I don't want to see any more work packets. …Kids can go for 20 minutes a night (using the software program) at their level. It's differentiated homework without even thinking about it. So, that's off the teacher's plate…*

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Social Emotional Learning

LITERATURE

- Social emotional needs of advanced learners are important factors to their success (Olszewski-Kubilius, et al., 2015).
- Some researchers argue that advanced students may be particularly vulnerable to social and emotional problems (Peterson, 2009)
- However a recent comprehensive review suggested that serious social and emotional issues appear no more or less often among highly capable students (Neihart, Pfeiffer, & Cross, 2015).
- Social emotional difficulties that arise are likely to be due to a mismatch between a student and his/her learning environment (Rinn, 2018).

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Social Emotional Learning

SITE VISITS

- Some principals and teachers emphasized the specific importance of **social emotional skills** and **empathy** for advanced learners
  - *A lot of advanced learners can really **struggle with relationships**, and the importance of being collaborative learners.*
  - *As much as we stress academics, it's also **the social piece** … wanting to come to school... It's really making sure they have some t**rusted companions***
  - *Socially, with some of my advanced learners, I'd like to see them become **more empathetic** for students that struggle with learning.*
  - *A few students... they don't really notice it, but **they behave in an arrogant way**. Because they are so proud of what they can do academically…*

SEATTLE PUBLIC SCHOOLS

Conclusions

The notion that there is a distinct way of developing curriculum that only benefits identified gifted children has proven to be false. The improvements in educational programming and instruction that benefit advanced learners would also benefit all students

SEATTLE PUBLIC SCHOOLS

Conclusions – Literature Review

- Serving the needs of advanced learners requires a **holistic approach**.
- A **variety of instructional strategies**, from inquiry-based learning to adaptive personalized learning, must be available to teachers.
- **Assessments** are critical to informing instructional decision-making
- **Appropriate levels of challenge and acceleration** are an important component of curricular/instructional solutions for advanced students.
- Advanced learners, like all students, need to **feel competent, connected to others, and have a sense of autonomy** in their learning.
- Advanced learners must be guided by the professional expertise of **highly trained teachers** to reach their highest capabilities
- Effective teachers of highly capable or advanced students must have both **strong subject area expertise** and an understanding of and appreciation for the **special needs of these students**.

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SPS Current State – Site Visits

Student Perspectives

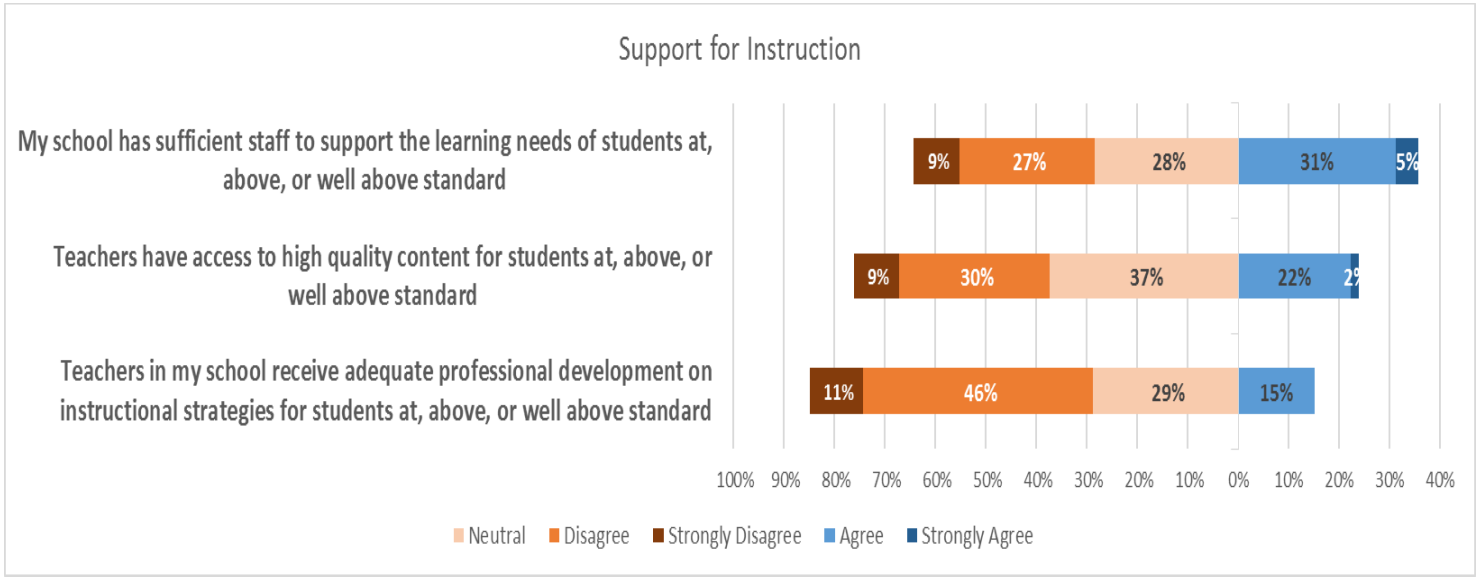
- It was clear that students frequently do NOT feel challenged or engaged, but this was more pronounced in some schools.
- A primary concern expressed was **spending too much time on a topic they already mastered**
  - *We're moving kind of slowly, and … it's just review, it's not like anything new*
  - *So far, we've been focusing on surface area, but we're going to be doing that for like the next week… and we'll figure it out in like a day.*
- The other major concern was **frequent use of worksheets and non-interactive lessons**
  - *I don't like it when the teacher just tells you something and expects you to learn from that, like I want to do something and actually learn it.*
  - *We do a lot of worksheets… I don't think we learn as much as we could.*
  - *Everyone has to do the same worksheet... Some do it the wrong way, and since we have so many worksheets, they keep practicing the wrong way. …*

SEATTLE PUBLIC SCHOOLS

Current State – Site Visits

- A significant challenge is the **lack of curricular resources and training** for project-based, deeper inquiry and differentiations strategies
  - *If your teaching fractions how do you dig deeper and challenge those kids? That becomes a challenge because you have to create something more project based.*
  - *The really good lessons that truly differentiate, which are hand-on, project-based inquiry, take so much time and effort. … We need trainings to do it effectively.*
  - *I would like to see more trainings on differentiation that's by content area*

Principal perspectives on support for teachers



SEATTLE PUBLIC SCHOOLS

Preliminary Recommendations

To fully support **advanced learners and all students across the learning spectrum**, SPS should research and gradually implement a more systemic approach to support each the each of following in all schools:

- **Deeper learning** (e.g., project-based) that is standards-based, rigorous
- **Differentiation techniques** for mixed ability classrooms
- Use of common **assessments** to support instructional decision-making
- Use of **technology** to support personalized, adaptive learning
- Creating a **blended, inclusive school culture** and social climate
- **MTSS** system that supports all students, **including advanced learners**
  - *We need to shift (our culture) to think that students who are struggling can be advanced learners, and their struggle would be staying engaged or being challenged… We're able to do it, but I think we need the resources.* – SPS Principal

SEATTLE PUBLIC SCHOOLS

EXECUTIVE SUMMARY: INTERNATIONAL SCHOOLS/DUAL LANGUAGE IMMERSION

Overview

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 October 2017.

Background on International Schools & Dual Language Immersion (DLI)

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
- Global Perspective
- Cultural/Global Competency

There are currently 10 international schools, located in three distinct regional pathways.

Table i. Seattle Public Schools International Schools

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

Figure i. SPS International Education Model

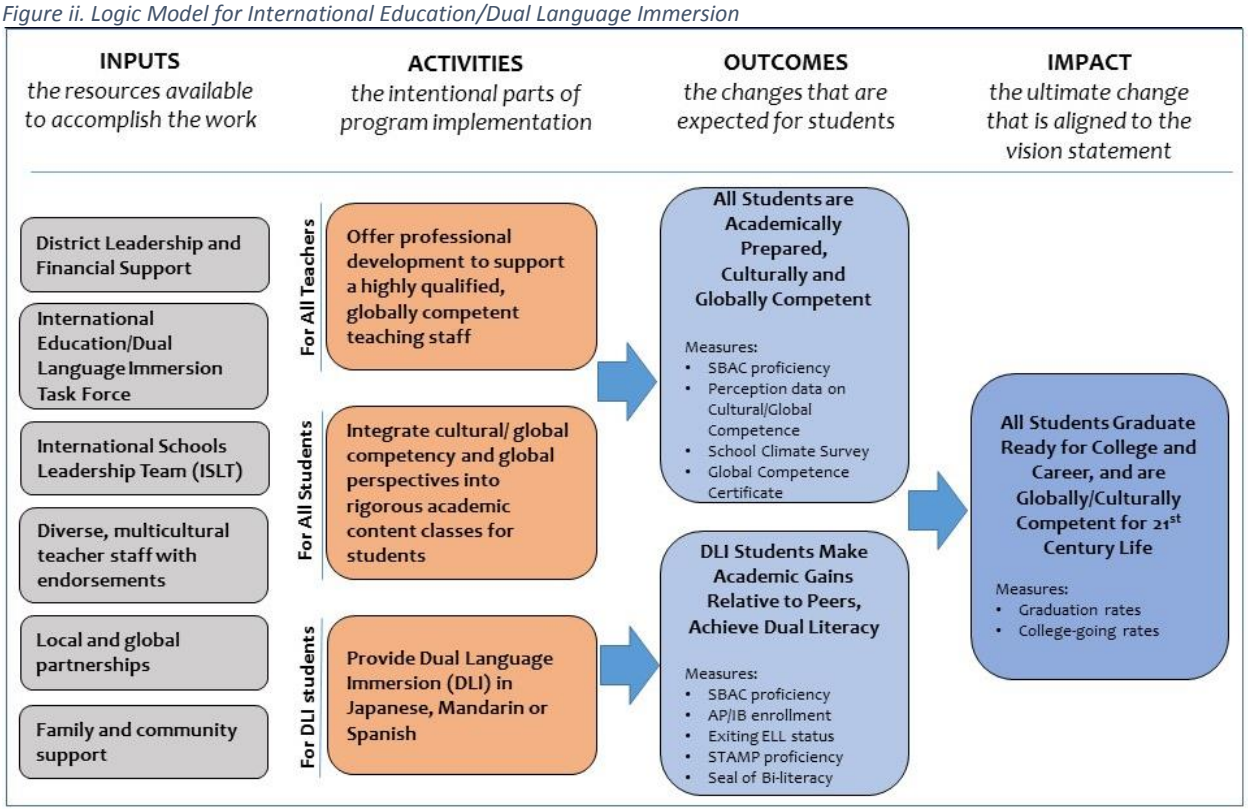
Program Review Methodology

Our program review examines the implementation and effect of this increasingly popular education model in the context of the ten International Schools in SPS. Key research questions of interest are:

1. *Do International Schools on the whole lead to academic preparedness, as well as cultural and global competence for students?*
2. *Do Dual Language Immersion programs in particular lead to biliteracy and academic gains for students relative to their non-DLI peers?*

Below is the logic model that guides this program review.

Figure ii. Logic Model for International Education/Dual Language Immersion



Our analyses highlight data from four main sources:

Student-level data analyses, including descriptive information of enrollment, student performance, and biliteracy; impact analyses for DLI program effects.

Interviews with all International School principals and in-depth *site visits at five International Schools*, including focus groups with students and teachers.

A *survey of teachers* administered to over 500 International School teachers, with a supplement for DLI teachers that included measures of DLI implementation fidelity.

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

Findings Summary

Descriptive Data

- **International Schools serve a higher percentage of Historically Underserved students in the district.** In 2016-17, Historically Underserved (Black/African American, Hispanic/Latino, Native American, and Pacific Islander) students represented 36% of students in International Schools, compared to 29% of students overall. However, the distribution of Historically Underserved students in International Schools varies by feeder system pathway and designation of the schools as either neighborhood schools or "option" schools.

- **Compared to the district overall, International Schools have higher percentages of current and exited English Language Learner (ELL) students (33% vs. 23%).** However, International Schools have about the same percentage of students receiving Special Education services.

- **Descriptive data on biliteracy suggest that the majority of students are adequately progressing in learning their partner language.** In 5th Grade 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 5th Grade Japanese and Mandarin DLI students are meeting or exceeding targets in Listening, Speaking, and Writing, but fewer are meeting targets in Reading.

Implementation Findings

- **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 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.

Impact Analysis Findings

- **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.**

Table ii. 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)

- **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).

Table iii. Cross-sectional student achievement -- Hispanic Students

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

- **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.** We do see descriptive evidence that DLI ELL students on average spend more time in ELL program than non-DLI students.

- **We did not find any statistically significant differences on probability of graduating High School between our treatment and control groups**. Due to difficulties of flagging DLI students in secondary schools, we could only examine the effects of attending an International School on graduation, regardless of DLI status.

PROGRAM REVIEW

INTERNATIONAL SCHOOLS/ DUAL LANGUAGE IMMERSION

FINAL REPORT

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Acknowledgments

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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

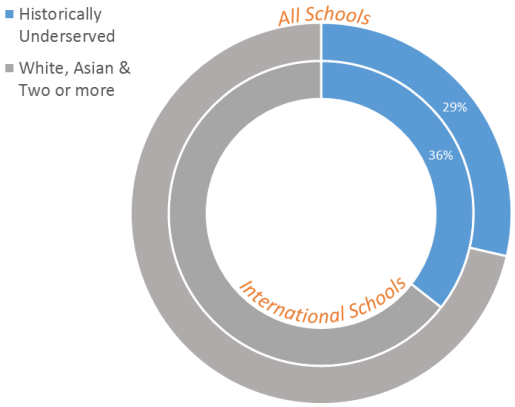
In this section of the report, we provide descriptive data of student enrollment and student performance for both DLI and non-DLI students. The findings highlight differences across international school pathways in the northwest, southeast, and southwest regions, as well as differences by the home language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

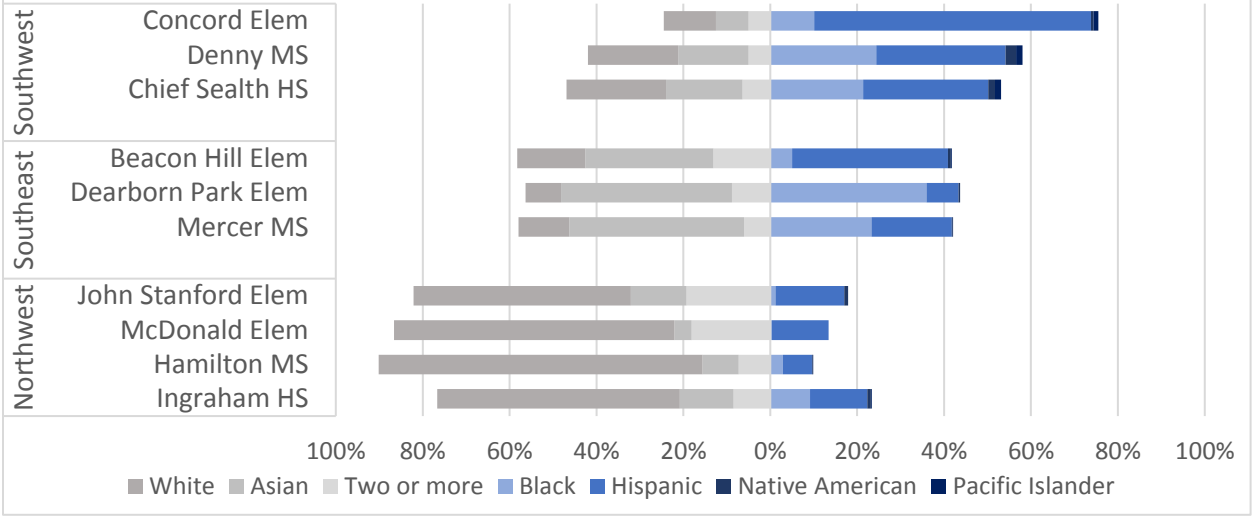
Figure 1. 2016-17 Composition of Students by Race/Ethnicity



	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

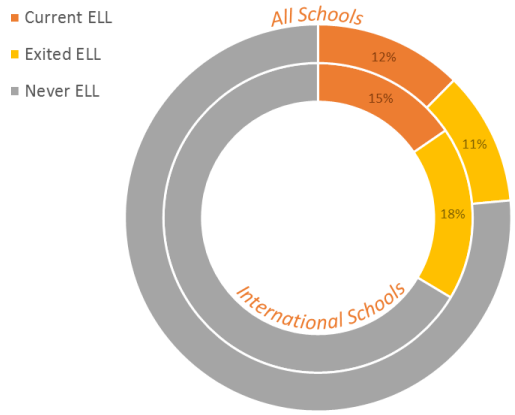
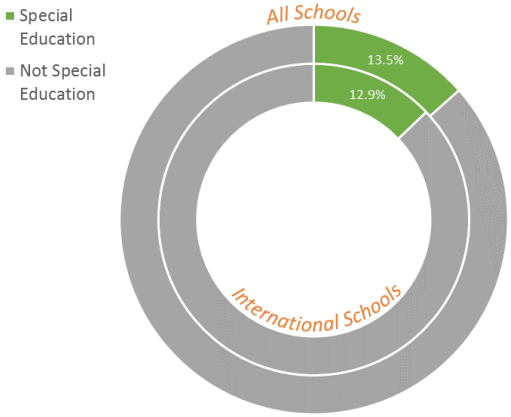


Figure 4. 2016-17 Composition of Students by Special Education



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

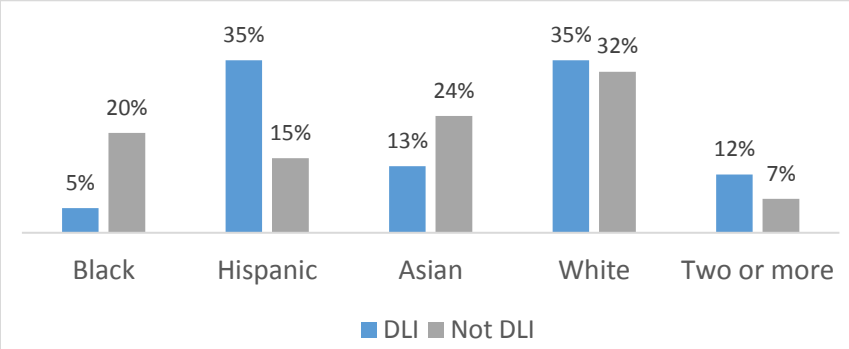
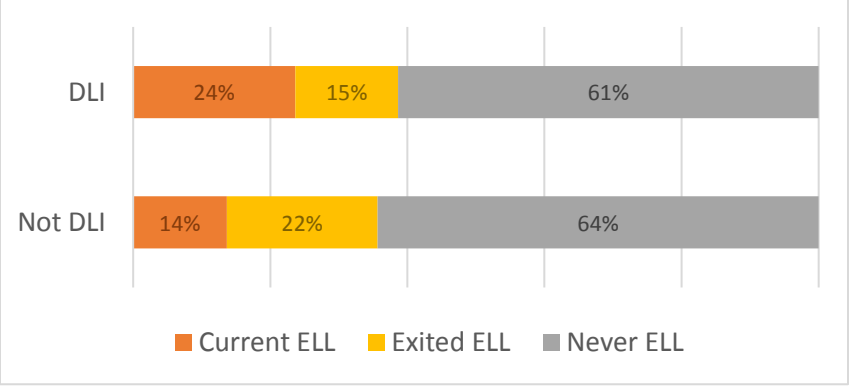


Figure 6. DLI Enrollment by ELL Status



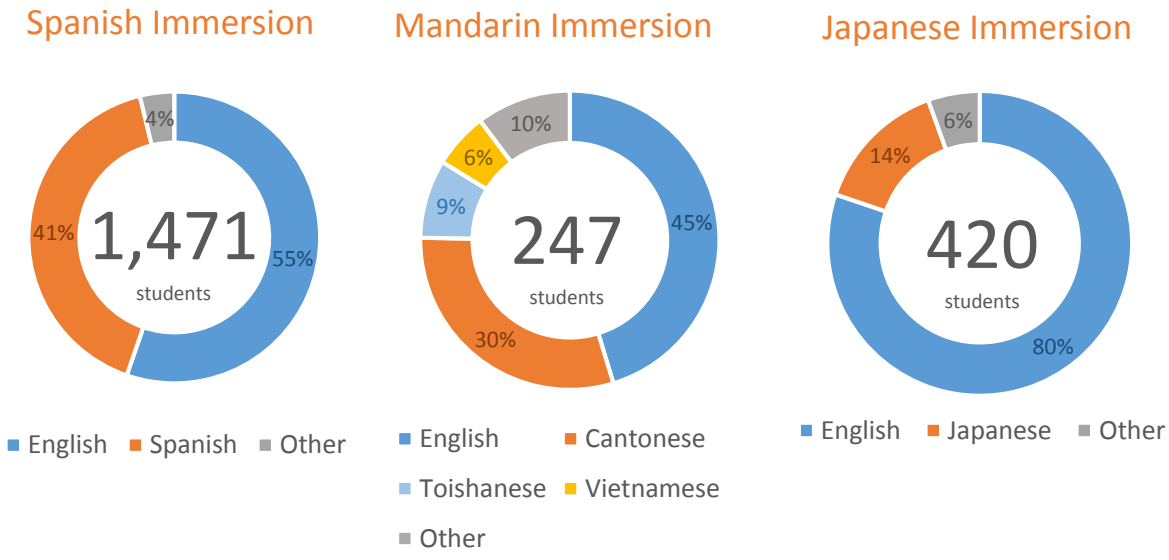
Note: SPS does not currently have a data system flag for DLI students. We used a combination of methods, including STAMP test data from 2014 to 2016, enrollment in an immersion Language Arts course (middle schools only), and system links to teachers who have been identified as DLI by the school and/or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

**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

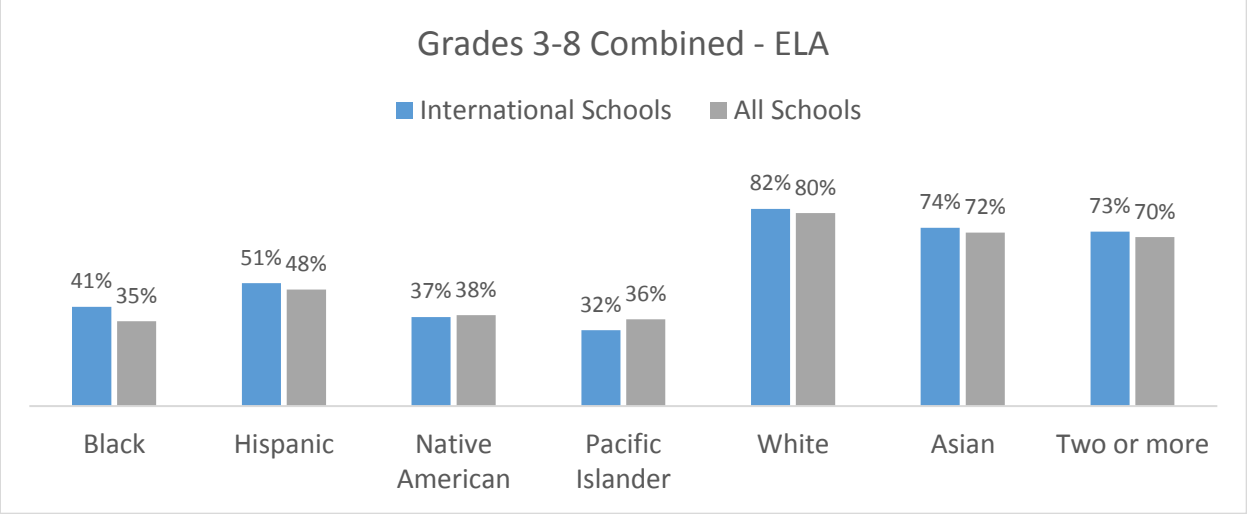


Note: Cantonese and Toishanese languages are different dialects of Yue Chinese, spoken in the southern China. While these languages share similarities with each other, they are not mutually intelligible with Mandarin.

Student Performance

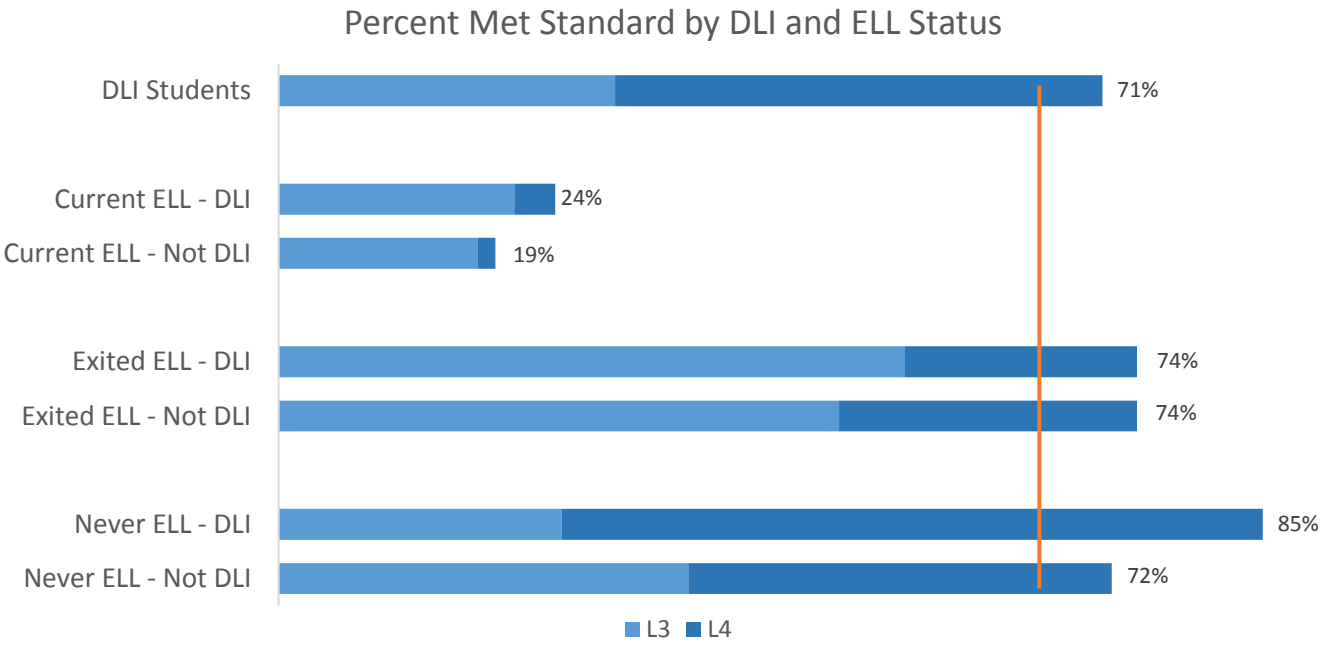
International Schools' students have slightly higher rates of passing Smarter Balanced assessments when compared to the district averages. The largest difference is among Black students – 41% of students attending international schools are meeting standard, 6 percentage points higher than all schools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

Figure 8. 2015-16 Smarter Balanced Results by Race/Ethnicity



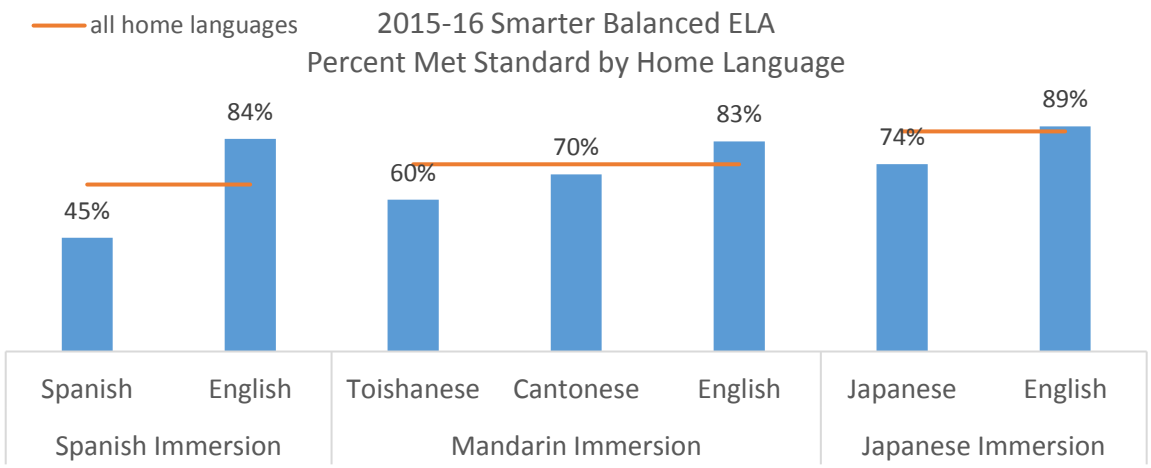
Overall, 71% of Dual Language Immersion students met proficiency on the Smarter Balanced Assessments in ELA, which is above the district average. Proficiency rates (regardless of DLI enrollment) are even higher for exited ELL students, but lower for current ELL students.

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



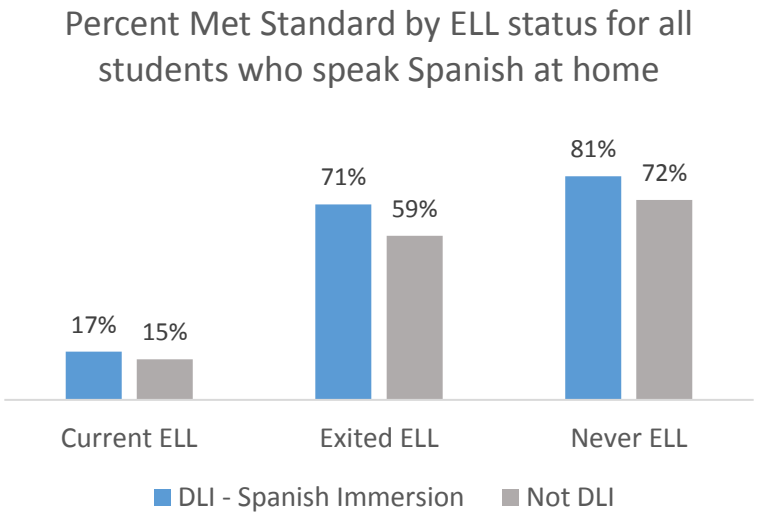
Opportunity gaps persist in international schools between heritage language speakers and native English speakers. Future impact analysis for this study will be able to examine these relationships more closely, specifically the degree to which DLI is a "gap closing strategy" for certain groups of students.

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



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.

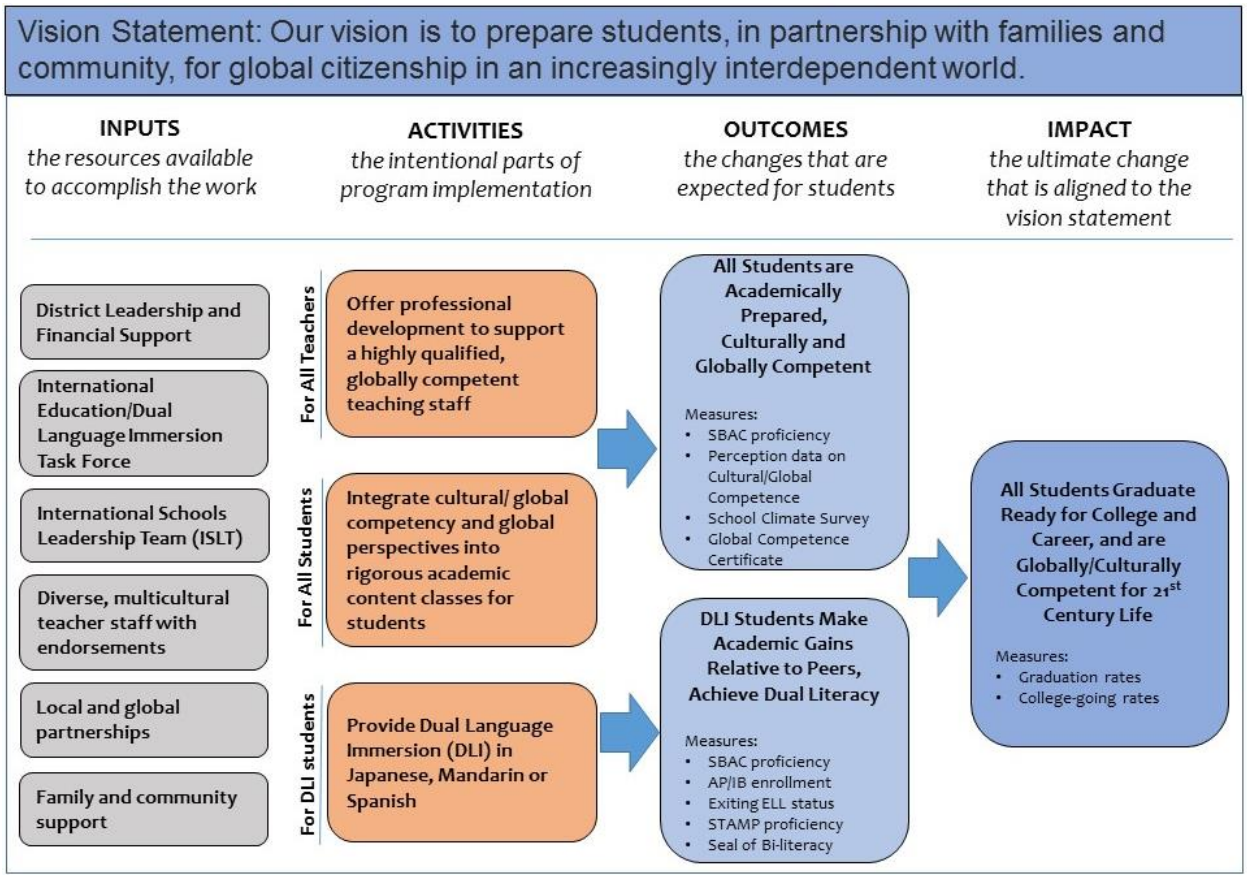
Figure 11. 2015-16 Percent of Students Meeting Standard by ELL Status



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."

> 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 straightforward about that.
>
> 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
    - Setting a Common Vision for International Schools
    - Cultural and Global Competence
    - 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

[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.

[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?

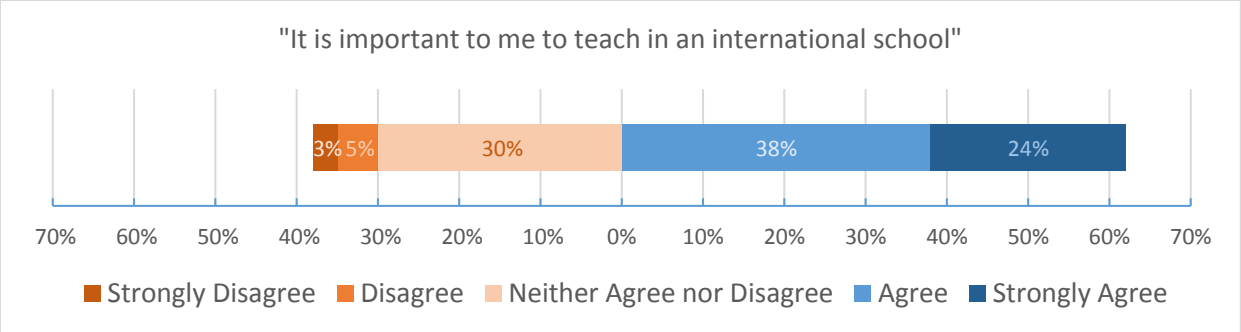
Teachers across all five site visits schools, including both DLI teachers and English-track teachers, reported that the ideals of international education and dual language immersion (see Page 2) is an important part of why they choose to work in their school. For some teachers, the opportunity to teach 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



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)

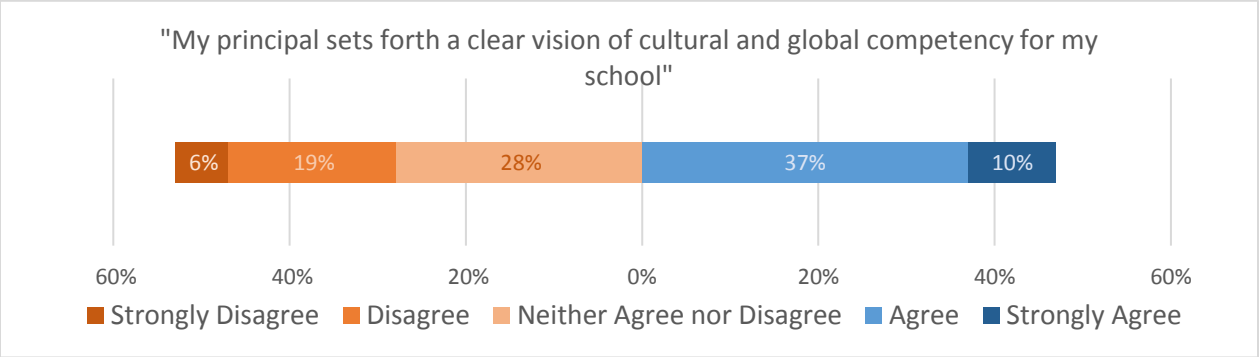
1. Investigate the World
2. Recognize Perspectives
3. Communicate Ideas
4. Take Action

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



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.

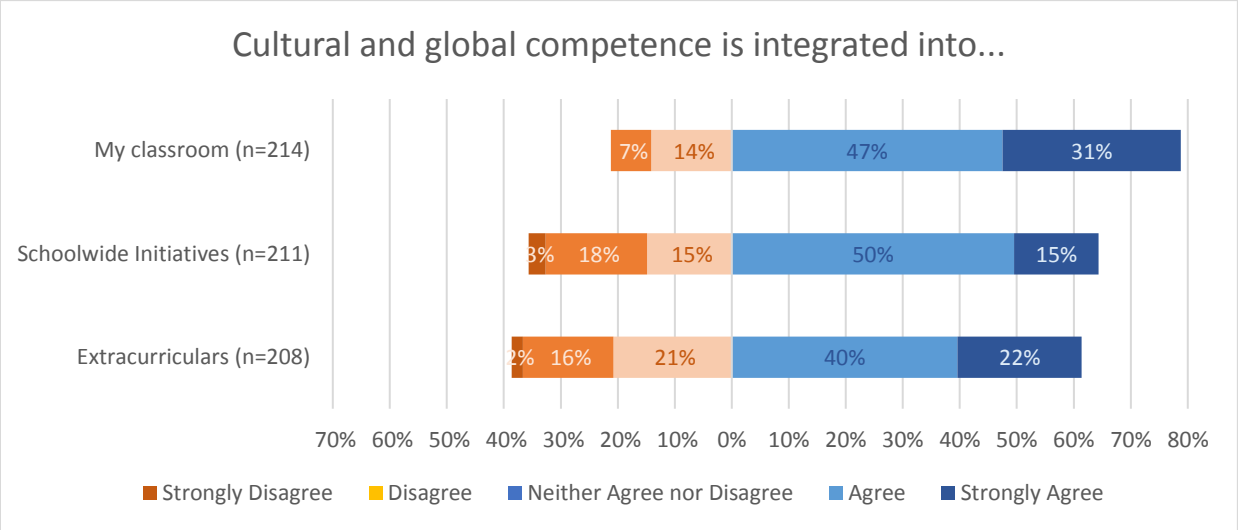
Example E: Multicultural Night at Concord International Elementary School

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***

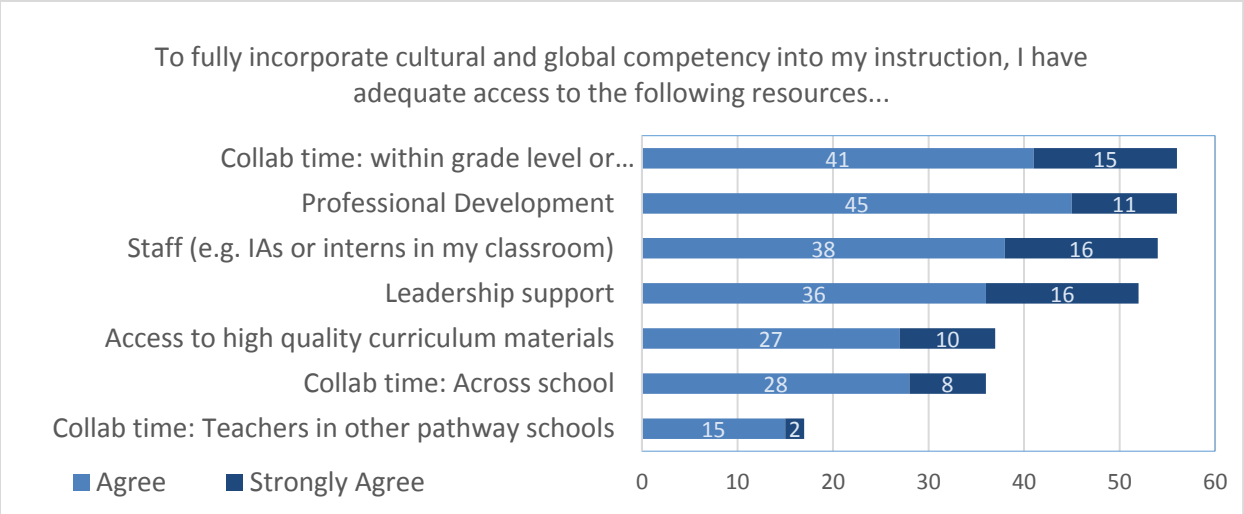
Finally, teachers expressed the need for **structured time** for teachers to share amongst themselves instead of leaving collaboration as an individual endeavor. Schools, they said, should create a culture and a schedule where it is acceptable and actually expected for teachers to ask for help when incorporating 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



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			
John Stanford International School (K-5)	Spanish, Japanese	100%	23%
McDonald International School (K-5)	Spanish, Japanese	100%	40%
Hamilton International Middle School	Spanish, Japanese	18%	13%
Ingraham International High School	Spanish, Japanese	n/a	n/a
Southwest Region			
Concord International School (K-5)	Spanish	68%	62%
Denny International Middle School	Spanish	20%	82%
Chief Sealth International High School	Spanish	10%	94%
Southeast Region			
Beacon Hill International School (K-5)	Spanish, Mandarin	71%	60%
Dearborn Park International School (K-5)	Spanish, Mandarin	43%	6%
Mercer International Middle School	Spanish, Mandarin	11%	64%

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

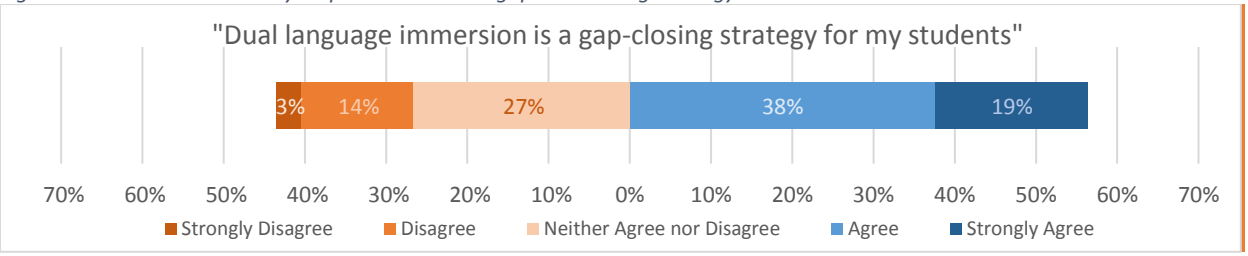
Data from site visits helps to clarify that, while biliteracy and cultural/global competence is a key goal across all schools and for all student groups, schools in the SE and SW pathways firmly believe that DLI is a tool to eliminate opportunity gaps in academic achievement, particularly for ELL students 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



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.

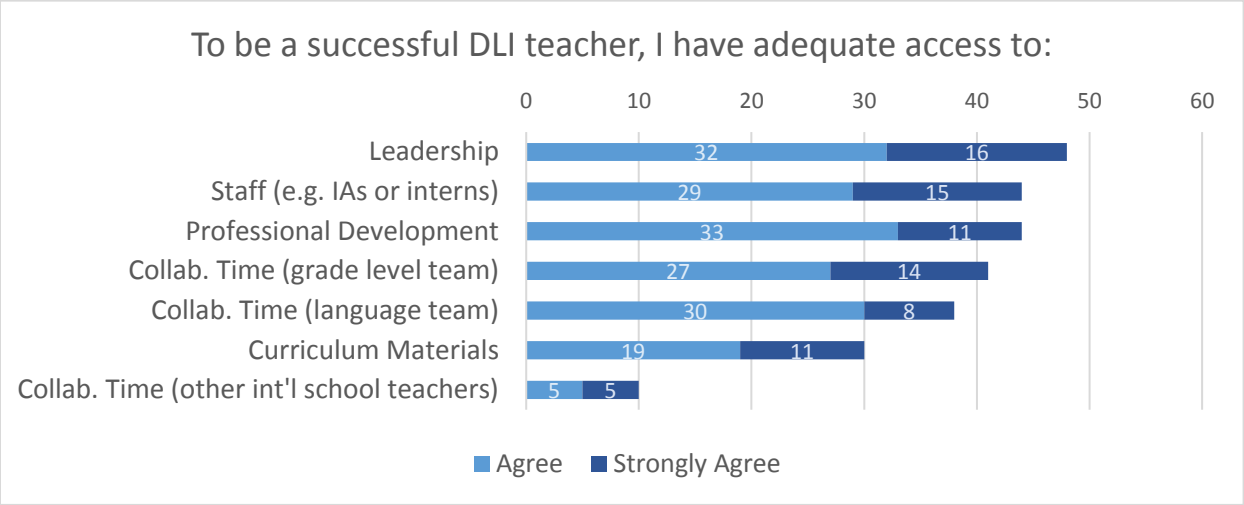
Stakeholders also mentioned some possible drawbacks to DLI programs:

- **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

[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
    - Context
    - Methods
    - Findings
    - 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.

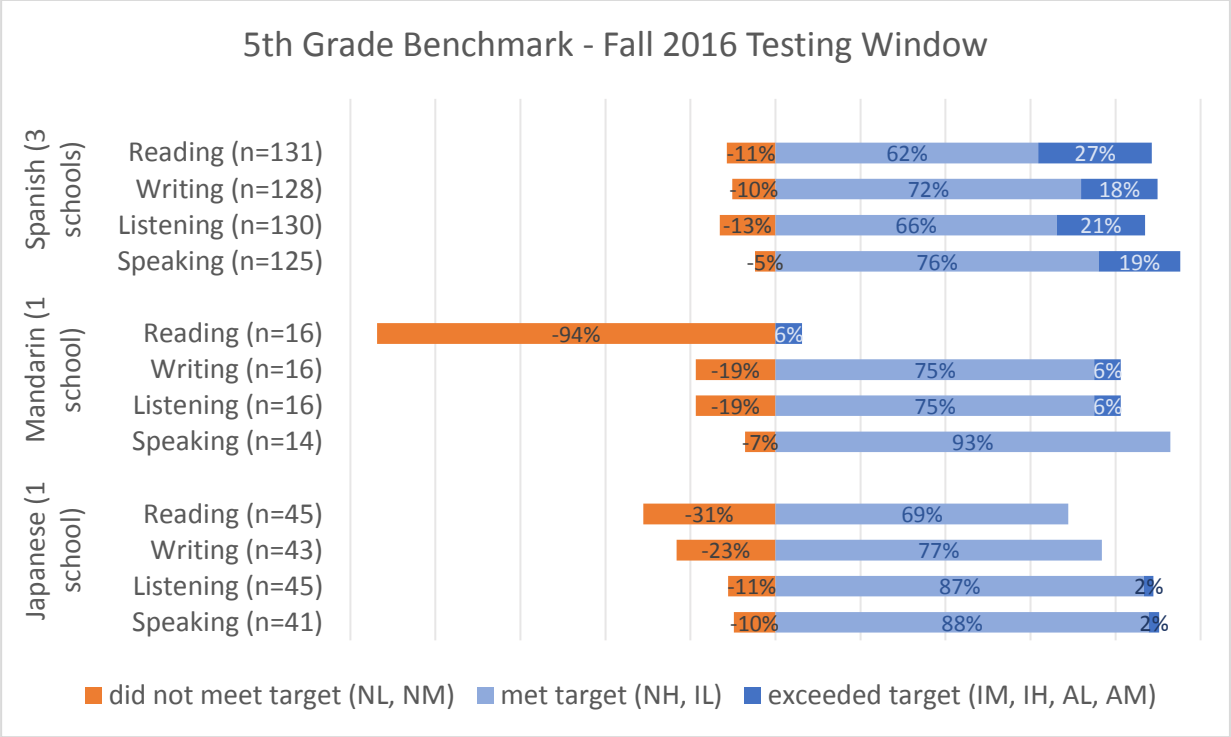
Table 8. SPS DLI proficiency targets

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.

[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.

[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,**

[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

[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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APPENDIX

Contents

Teacher Professional Development

Michele Anciaux Aoki, author

Background

Professional Development of teachers in International Schools and Dual Language Immersion programs is vital to ensuring the all-school commitment to globalizing the curriculum and creating the environment to support Dual Language Immersion programs. Seattle has emphasized home-grown professional development led by teacher leaders in the schools in order to maximize the long-term impact. 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 of leaders of professional development in Seattle Schools.

Seattle has also have been able to leverage the relationship with the University of Washington to partner on professional development workshops, trainings, and institutes. This has given Seattle teachers access to an array of high-qualify PD.

Professional Development Opportunities in 2015-2016

Here is a snapshot of PD opportunities offered in the 2015-2016 school year:

https://sites.google.com/site/seattleislt/calendar/2015-2016

Professional Development Opportunities in 2016-2017

Here is a snapshot of PD opportunities offered in the 2016-2017 school year:

https://sites.google.com/site/seattleislt/calendar/2016-2017

International Education Category

Michele Anciaux Aoki, author

Background

Seattle Public Schools HR maintains a list of Categories that teachers provide to indicate what areas they are both qualified to teach in (based on their Certification and Endorsements) and are interested in teaching. For example, a teacher might have Endorsements for both Social Studies and Spanish, but only be interested in accepting jobs for teaching Spanish. In some cases, SPS has established its own unique Categories in order to meet specific needs of the district. When the SPS International Schools were established, the district realized that the schools were investing in the professional development of teachers to become globally oriented in their instructional practice. It did not make sense for experienced International Schools teachers to be displaced by teachers without that experience if Reduction In Force occurred. Therefore, the district established two new Categories of International Education at the elementary and secondary level.

Since 2013-2014, a number of teachers have completed the International Education Assessment Tool and been approved to add the Category. Since 2015, there has also been an expectation that teachers selected to be on the International Schools Leadership Team would earn the International Education Category. As of spring 2017, 37 current teachers in SPS held the International Ed Category, compared to December 2014 when only seven teachers in the district had earned the Category.

Table 1. International Education Category Report by School

International Ed Category – Spring 2017	Count	International Ed Category – Spring 2017	Count
EW - International Ed (Elementary)	**24**	**SW - Sec International Ed**	**13**
Beacon Hill International School	4	Chief Sealth International High School	6
Concord International School	5	Denny International Middle School	2
Dearborn Park International School	3	Hamilton International Middle School	1
John Stanford International School	5	Mercer International Middle School	2
McDonald International School	7	Ingraham International High School	1

Note: There is a teacher at Cleveland with the Category who earned it at Denny

International Education Category Assessment Tool and Process

The Assessment Tool consists of four sections aligned to the main components of International Education School Board Policy No. 2177, plus the component of Innovative Teaching. Each Assessment component lists some specific "look-fors," and the teacher applicant reflects on each component and provides examples from unit and lesson plans and student evidence. The teacher completes the form and gathers the evidence, then meets with the principal, who rates each component. The final step for approval is a meeting between the teacher and the International Education Administrator at the school site where the teacher presents the Assessment Tool, goes over the reflections, and shares the evidence. The teacher then submits the Category through the standard HR update process, and HR verifies with the International Education Administrator that the teacher was approved to add the Category. Learn more at https://sites.google.com/site/seattleislt/categories.

DLI Fidelity Checklist

Michele Anciaux Aoki, author

Background

As part of the 2017 Program Review of International and Dual Language Immersion programs in Seattle Public Schools, a team from Seattle Public Schools and the University of Washington reviewed a variety of nationally available guidelines for Dual Language Immersion Programs to prepare a Fidelity Checklist. The intention is for this Fidelity Checklist to be useful now and in the future as a tool for continuous improvement of Seattle's Dual Language Immersion Programs.

The two Checklists that follow represent essential elements from the master list of guidelines that would be most relevant for Seattle's schools: a Fidelity Checklist for District Survey and a Fidelity Checklist for Teacher and School Survey. These were extracted from the full working documents SPS-Intl-DLI-Fidelity Checklist and SPS-Intl-DLI-Fidelity-Checklist-Details.

The team that worked on the Fidelity Checklist included:

- Dr. Michele Anciaux Aoki, International Education Administrator, Seattle Public Schools
- Dr. Chan Lu, Assistant Professor of Asian Languages & Literature, University of Washington
- Ms. Fenglan Nancy Yi-Cline, Graduate Student, UW College of Education
- Ms. Erica Marlene Ramos-Bailey, Graduate Student, UW College of Education

In addition, Dr. Jessica Beaver, Senior Researcher, Seattle Public Schools, reviewed the draft Fidelity Checklists and identified items to be used in the Teacher Survey as part of the Program Review. Members of the International Schools Leadership Team (teacher leaders from the ten International Schools in Seattle) and the International Schools/Dual Language Immersion Task Force also had an opportunity to review and prioritize items from the full draft Fidelity Checklist.

Sources Reviewed

From Seattle Public Schools: Dual Language Immersion Guidelines, adapted from Fairfax County, Virginia in 2002, and updated each year in Seattle. Download from SPS International Education.

From the Center for Applied Linguistics (CAL): Howard, E. R., Sugarman, J., Christian, D., Lindholm-Leary, K. J., & Rogers, D. (2007). Guiding Principles for Dual Language Education (2nd ed.). Washington, DC: Center for Applied Linguistics. Download at CAL TWI Guiding Principles.

From the Asia Society Chinese Early Language Immersion Network (CELIN): Key Features of Chinese Language Programs: A CELIN Checklist (presented at the April 2017 National Chinese Language Conference). To be posted at CELIN.

From the State of Utah: DLI Assurances Grades 1-6

From Houston Independent SD: Handbook for Dual Language

From Collier and Thomas: Non-Negotiables in Dual Language Education White Paper

From CASLS Portland Study: Chinese Immersion Research

From Asia Society Ed Week blog: Ten Lessons for Language Immersion Programs

The key elements were compared and grouped by category

- Program Design
- Curriculum
- Instruction
- Assessment and Accountability
- Staff Quality and PD
- K-16 Commitment
- District Support
- Materials
- Parents/Community Support
- Recruitment and Retention

While all of the categories are relevant and the individual items important, the excerpted Checklists below include the items which seemed most focused and pertinent to the Program Review process for Seattle.

Fidelity Checklist for District Survey

Program Design

1. The program design is research-based and uses a process of continual program planning, implementation, and evaluation.

Curriculum

2. Language learning targets are described clearly, based on the ACTFL language proficiency scale and encompassing all modes of communication.

Assessment and Accountability

3. The program collects a variety of data, using multiple measures, that are used for program accountability and evaluation.
4. The program communicates with appropriate stakeholders about program outcomes.

Staff Quality and Professional Development

5. The program recruits and retains high quality dual language staff; HR has an active role and clear understanding of the unique needs of a Dual Language Immersion program.

6. A system is in place for observing classroom instruction and providing feedback, mentoring, coaching, and evaluation with a specific and measurable focus on Dual Language Immersion instruction.
7. The district provides teachers with ongoing professional development through professional learning communities that work toward aligning content and language curriculum horizontally across disciplines and vertically across grade levels.

District Support

8. The program is supported by all program and school staff, as well as strong, knowledgeable, and effective district staff.

Parents/Community Support

9. Parents know what the intended outcomes are of their children's participation at different levels.

Recruitment and Retention

10. Enrollment in dual language immersion is open to all students of varying backgrounds and ability levels using a clear and equitable process.
11. Enrollment procedures are clearly communicated to parents and community members.

Fidelity Checklist for Teacher and School Survey

Curriculum

1. The curriculum is aligned to Washington State Learning Standards, including Common Core State Standards and the World Readiness-Standards for Learning Languages.
2. The curriculum is intentionally planned across grades for each content area taught in the partner language and English.
3. The curriculum promotes the development of bilingual, bicultural, biliterate, and multicultural competencies for all students.
4. The district and schools provide opportunities to teachers to share model curricular units and high-leverage strategies across schools, grades, and content areas.

Materials

5. Materials are age appropriate and engaging for students of intended language proficiency levels.

Instruction

6. Teachers provide students access to both structured and unstructured learning activities, giving them opportunities to develop formal and informal language in English and the partner language.
7. Teachers plan for collaboration time for reinforcement of content taught in the partner language in the English classrooms.

Assessment and Accountability

8. Teachers use both formative and summative classroom-based assessments of student proficiency in both the partner language and English that are administered in an effective and timely fashion.
9. Teachers analyze and use data from student language assessments for student placement, interventions, and to guide instruction and report progress to families on students' growing proficiency in the partner language and English.

Staff Quality and Professional Development

10. The district and schools provide meaningful and targeted professional development for teachers throughout the school year on both teaching academic content and teaching for biliteracy.

International Education Program Budget

Michele Anciaux Aoki, author

Budget Overview

The International Education Administrator is responsible for managing the International Education (4K) budget each year. The main budget item (not shown in the summary below) is the salary and benefits for the central office person filling that position. Non-Staff Expense (Teacher Time) is mainly for extra hours for teacher collaboration and professional development and Non-Staff Expense (Other Exp) covers printing, materials, registrations (mainly language tests for DLI), travel, etc. In 2016-2017, a separate budget was set up for the International Schools Leadership Team (ISLT) (1.2 FTE split across 5 teachers, plus $25,000 for stipends, extra hours, and conferences).

Table 2. International Education Program Budget

International Ed Budget (4K)	Non-Staff Expense: (Teacher Time)	Non-Staff Expense: (Other Exp)	ISLT Staff: 1.2 FTE, 5 partial FTE teacher leaders in schools	ISLT stipends, extra hours, PD & Conference
2012-2013	$ 3,310.64	$ 9,388.71		
2013-2014	$ 84,443.52	$ 21,588.06		
2014-2015	$ 50,270.67	$ 19,192.38		
2015-2016	$ 46,711.08	$ 59,911.98		
2016-2017	$ 19,361.00	$ 7,813.55	$ 131,439.00	$25,000.00
2017-2018	$ 12,597.00	$ 6,986.00		

International Schools Leadership Team

The International Schools Leadership Team (ISLT) was established in 2014 as a leadership group of teacher leaders from all of the International Schools. The ISLT Leads each received .2 Full Time Equivalent pay (FTE) to devote time to support internationalizing their school and supporting all of the International Schools across the district. (The Lead teacher, Noah Zeichner, generally received .4 FTE, but the funding came from varied resources besides the Intl 4K budget.) About half the remaining ISLT members received a yearly stipend of $3500 to $5000 (depending on the year) and the remaining ISLT members received extra hours for attending ISLT planning meetings and carrying out projects and Professional Development (PD). The ISLT was partially funded in 2013-2014, fully funded in 2014-2015 (though the amounts appear to have been allocated directly to the schools' budgets for the FTE and stipends), not funded in 2015-2016 (late funding came in May 2016, but was used to support PD and teacher collaboration since it was too late to do FTEs or stipends), and was fully funded in 2016-2017. As of August 25, 2017, nothing was budgeted for the ISLT in 2017-2018.

Other Grants

The International Education Administrator also administers the federally funded (Dept. of Defense) STARTALK grant, which funds a summer Alt Route Certification program with Pacific Lutheran University (PLU) for teachers of critical languages, including Chinese. The Seattle International Schools do not receive any funding from this grant, but the district has benefited from having a ready supply of fully

Certificated and Endorsed teachers of Chinese available to teach in any of our schools offering Mandarin Chinese.

The International Education Administrator also serves as the Co-Director of the Confucius Institute of the State of Washington (CIWA), in partnership with the University of Washington (Office of Global Affairs), Governor's Office and Office of Superintendent of Public Instruction (OSPI), and Hanban in China. The Alliance for Education serves as the fiscal agent for the grant. Each year a portion of the funds (about $3000 - $15,000 depending on the year and the projects funded) is allocated as a grant to Seattle Public Schools to the International Education 4K budget. Most of those funds are used for extra hours for Chinese teachers for professional development or curriculum development. Sometimes funds are used to purchase materials to support the learning of Chinese. The total annual budget for CIWA is over $200,000 with about half of that going to the University of Washington. The remainder supports the expansion of Chinese language learning and teaching in K-12 schools and cultural programs throughout the state.

Historical District Budget For Launching new International Schools

Since about 2010, the district has allocated specific district funds to support the district's goal of expanding International Schools in three regions (Northwest, Southeast, and Southwest). New International Schools usually received $15,000 for an initial pre-planning year, then about $100,000 - $130,000 for the Planning Year, which could be split over two years.

Table 3. Historical Budget for Launching New International Schools

District Budget for launching new International Schools	**Pre-Planning Year**	**Planning Year**	**Total**	**School(s)**
2010-2011	$ 15,000.00		$ 15,000.00	Ingraham
2010-2011	$ 15,000.00		$ 15,000.00	McDonald
2011-2012		$ 30,000.00	$ 30,000.00	Ingraham
2011-2012		$ 100,000.00	$ 100,000.00	McDonald
2012-2013	$ 15,000.00		$ 15,000.00	Dearborn Park
2012-2013	$ 15,000.00		$ 15,000.00	Mercer
2012-2013		$ 70,000.00	$ 70,000.00	Ingraham
2013-2014		$ 100,000.00	$ 100,000.00	Dearborn Park
2013-2014		$ 130,000.00	$ 130,000.00	Mercer
2014-2015	$ 15,000.00		$ 15,000.00	Sanislo*
2015-2016	$ -	$ -	$ -	
2016-2017	$ -	$ -	$ -	
2017-2018 budget	$ -	$ -	$ -	
TOTAL 2010-2018			**$ 505,000.00**	

*Note: Sanislo was selected as the second elementary Intl School in SW in winter 2014/5, but by June 2015 it was determined that Sanislo was no longer feeding into Denny Intl MS, so Enrollment Planning & Services did not agree to let it continue its pre-planning year.

Global Competence Certificate

Michele Anciaux Aoki, author

Background

Seattle's International Schools Leadership Team (ISLT) began researching the feasibility of offering a recognition or certificate of some sort for students demonstrating global competence in 2015. They organized a session on this topic at the August 2016 International Schools Mini-Symposium, held at Chief Sealth International High School. (See ISLT > Global Certificate for details of this session and the other state and district models reviewed.)

Questions considered at the International Schools Mini-Symposium August 29, 2016:

1. How do the ISSN, Wisconsin, and other state, district, school, and college approaches to recognizing that students are "globally prepared" compare?
2. Which elements seem most relevant to us in Seattle?
3. Is this something that our International Schools in Seattle would want to undertake?
4. How would students benefit?
5. How much of a burden would it be for teachers/staff to support it?
6. How could we ensure that there were equitable opportunities for students to achieve this recognition?
7. What would it look like to manage portfolios through Schoology Portfolio?

A survey taken at the end of the session showed consensus on the desirability of creating a Global Certificate program. It should have the word “Global” in it, be offered at least at the high school level, and include the components in Seattle’s School Board International Education Policy of World Language, Global Perspective, Cultural/Global Competence, and the overall state goal of Global Citizenship.

Pilot of Global Competence Certificate Spring 2017

The International Schools Leadership Team decided to partner with the World Affairs Council Global Classroom program to pilot a Global Competence Certificate in spring 2017. This made it possible to offer the opportunity to students beyond Seattle Public Schools and to give it, potentially, more visible recognition in the broader community. The World Affairs Council set up a new website to provide both information on the program and be an example for students to create their own online portfolio: World Affairs Council Global Classroom page - Global Competence Certificate

The World Affairs Council, working with the ISLT and the SPS International Education Administrator, also created other resources for students to get ideas for International Experiences and Engagement that could be accomplished locally (“Glocal” Experience Ideas) and to create their online portfolio (Global Competence Website), as well as an introduction to the Global Competence Certificate.

During the spring of 2017, Maggie Archbold and Ryan Hauck from the World Affairs Council, and Noah Zeichner from Chief Sealth International School identified about ten high school students interested in participating in the pilot program. After Maggie left the World Affairs Council in May, Kelly Martin, former Social Studies Program Supervisor at the Office of Superintendent of Public Instruction, joined Noah and Ryan to continue working with the students to complete their online portfolios.

Several combined in-person and Zoom meetings were held during the spring to talk with the participating students, answer their questions, give them an opportunity to talk through their ideas for their online portfolios, and generally encourage them to continue their work. The Zoom recordings are available for these dates: April 6, 2017 | April 24, 2017 | April 25, 2017 | May 8, 2017 | June 6, 2017.

Two students ultimately completed their Global Competence websites and presented them to the team. One was a graduating senior from Lakeside High School, http://beckyglobalcompetence.weebly.com/. The other was an international student from Germany at Chief Sealth International High School, who preferred not to make her website public, but did share it with the team. Both students provided excellent examples and were awarded the first two Global Competence Certificates in Washington State.

To evaluate the online portfolios, the team developed a Global Competence Certificate Portfolio Assessment and Scoring Guide. Each student's portfolio received three evaluations. All three had to agree in order for the student to be recommended to receive the Global Competence Certificate. All students were recognized for their participation in the pilot.

Future Plans

Both the International Schools Leadership Team and the World Affairs Council were pleased with the results of the pilot and hope to implement the program on a broader scale in 2017-2018.

Language Proficiency Testing

Michele Anciaux Aoki, Author

Background

Since the launch of the first International School in 2000, Seattle Public Schools has conducted various types of language proficiency assessment of the students in the Spanish, then Japanese and Mandarin, Dual Language Immersion (DLI) programs in order to determine whether the students were generally demonstrating growth in their language skills. In 2001 and 2002, John Stanford International School worked with the Center for Applied Linguistics (CAL) to conduct the Early Language Listening and Oral Proficiency Assessment (ELLOPA) with K-1 students of Spanish. The next year, Japanese was added and the assessment protocol was conducted through 2nd grade. In subsequent years, local teachers were trained to conduct the ELLOPA and Student Oral Proficiency Assessment (SOPA), which is used for students beyond 2nd grade. While conducting the ELLOPA and SOPA interview protocol was a valuable experience for the teachers and Instructional Assistants (IAs), without rigorous training and guided practice, the teachers and IAs could not always produce ratings that were reliable and consistent across programs and schools. In recent years, the new International Schools have not regularly conducted ELLOPA or SOPA interviews.

As additional International Schools opened and the DLI programs extended into higher grades, Seattle became an early pilot district for the new online Standards-based Measurement of Proficiency (STAMP), developed at the University of Oregon. STAMP was a good choice because it tests all four skills (Reading, Writing, Listening, and Speaking), is computer-adaptive and non-timed (so is student-friendly), and provides reliable and consistent ratings at a reasonable cost (about $16/student currently). After several years of piloting the STAMP test, the district began in 2010 developing a K-12 articulation plan, which included working with the International Schools principals to specify proficiency targets at certain benchmark grades. Since that year, there has been an effort to assess all of the DLI programs annually at those benchmarks whenever there is funding and capacity to do so. In 2016, for the first time, the district sent home the STAMP test results to parents along with a progress report letter to help parents better understand their children's path to proficiency in Spanish, Japanese, or Mandarin.

Proficiency Targets

Seattle, like most districts and states in the country, uses the American Council on the Teaching of Foreign Languages (ACTFL) Proficiency Guidelines for setting proficiency targets for both World Language programs (at the secondary level) and Dual Language Immersion programs (starting in Kindergarten). The ACTFL Proficiency Scale ranges from Novice (just beginning to learn the language) to Intermediate and Advanced. Each of these major levels has three sub-levels: Low, Mid, and High. As an example, World Language teachers must demonstrate Advanced Low proficiency in order to qualify for a World Language Endorsement in a given language in Washington State. The ACTFL Proficiency Scale also includes the ranges of Superior and Distinguished, which are usually reached only by adults, either native speakers or highly educated second language learners.

The targets set by the International Schools principals were determined after researching standards in other districts, such as Portland, and states, such as North Carolina and Utah. The principals decided to specify a range (e.g., Novice Mid-Novice High), rather than a single level as a target. Having a range has been helpful on several counts. For one thing, generally, it takes English speakers much longer to learn a

language like Japanese or Chinese than a language like Spanish. So one would predict that proficiency ratings would probably by higher at any given grade level for Spanish than for Japanese or Chinese. That is generally true, but it also true that there is a great deal of individual variation in how children acquire languages and what they can demonstrate of their skills. So, students can meet the proficiency target within the range and still show growth across years.

Table 4. Seattle Dual Language Immersion 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									
9th Grade									
10th Grade									
11th Grade									
12th Grade									

ACTFL Proficiency Guidelines - Levels http://actflproficiencyguidelines2012.org/

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

Assessment Plan

In 2015, the International Schools teachers and principals agreed on an annual assessment plan with STAMP testing at key benchmark years: end of 3rd grade, end of 5th grade, and end of 8th grade. However, due to the new SBA computer-based state tests being introduced, the usual testing window in the spring of each year became challenging because computers were simply not available for language testing. After conversations with other districts testing DLI students, such as Portland, Seattle decided to move the STAMP testing window to early fall. (The exception was for 8th grade STAMP testing, which is used for students to earn Competency-Based Credits. It was important to complete that testing before students left for high school.)

In fall 2015, we also piloted new common progress report letters to accompany a student's STAMP Test Results report to families. Teachers felt it would be helpful to offer test results at other grades too (besides 4th grade and 6th grade), so additional grades were added to the Assessment Plan. This also gave teachers a "preview" of whether their students were on track to meet the benchmark proficiency targets the following year. These included fall of 3rd grade (just Reading and Listening) and fall of 5th grade. For grades 3-5, the STAMP 4Se (4 Skills elementary) version was used, while STAMP 4S (4 Skills) was used beginning in 6th grade. (The STAMP 4S is also used at the end of 8th grade.)

Assessment Results Snapshot

As we summarize the STAMP results, we can answer a variety of questions pertaining to how students are acquiring the partner language (Spanish, Japanese, or Mandarin). The following results are all from the Fall 2016 testing window. The green results are in the target range for that grade level, pink results are below, and blue results are above.

Question 1: Are students reaching proficiency target benchmarks?

End of 3rd Grade Benchmark NM-NH: On average, in all of the DLI programs, students reached the Target Proficiency levels (Novice Mid to Novice High), and in many cases, they exceeded the targets. The lowest Skills are generally Reading and Writing in Japanese or Mandarin.

Table 5. End of 3rd Grade Benchmarks

Benchmark Targets	School	Class	Student Count (I	Language	Skill	AVE 1 - NL	AVE 2 - NM	AVE 3 - NH	AVE 4 - IL	AVE 5 - IM	AVE 6 - IH	AVE 7 - AL
End 3rd: NM-NH	Concord Intl	4th Grade	33	Spanish	Reading			3.76				
End 3rd: NM-NH	Concord Intl	4th Grade	33	Spanish	Writing			3.74				
End 3rd: NM-NH	Concord Intl	4th Grade	33	Spanish	Listening				4.64			
End 3rd: NM-NH	Concord Intl	4th Grade	33	Spanish	Speaking			3.46				
End 3rd: NM-NH	Beacon Hill Intl	4th Grade	25	Spanish	Reading				4.04			
End 3rd: NM-NH	Beacon Hill Intl	4th Grade	25	Spanish	Writing			3.57				
End 3rd: NM-NH	Beacon Hill Intl	4th Grade	25	Spanish	Listening				4.70			
End 3rd: NM-NH	Beacon Hill Intl	4th Grade	25	Spanish	Speaking			3.24				
End 3rd: NM-NH	John Stanford Intl	4th Grade	24	Spanish	Reading				4.00			
End 3rd: NM-NH	John Stanford Intl	4th Grade	24	Spanish	Writing			3.52				
End 3rd: NM-NH	John Stanford Intl	4th Grade	24	Spanish	Listening				4.29			
End 3rd: NM-NH	John Stanford Intl	4th Grade	24	Spanish	Speaking			3.25				
End 3rd: NM-NH	McDonald Intl	4th Grade	39	Spanish	Reading				4.44			
End 3rd: NM-NH	McDonald Intl	4th Grade	39	Spanish	Writing			3.28				
End 3rd: NM-NH	McDonald Intl	4th Grade	39	Spanish	Listening					5.18		
End 3rd: NM-NH	McDonald Intl	4th Grade	39	Spanish	Speaking			3.05				

Table 6. End of 3rd Grade Benchmarks

Benchmark Targets	School	Class	Student Count (I	Language	Skill	AVE 1 - NL	AVE 2 - NM	AVE 3 - NH	AVE 4 - IL	AVE 5 - IM	AVE 6 - IH	AVE 7 - AL
End 3rd: NM-NH	Beacon Hill Intl	4th Grade	27	Mandarin	Reading		2.44					
End 3rd: NM-NH	Beacon Hill Intl	4th Grade	27	Mandarin	Writing			3.63				
End 3rd: NM-NH	Beacon Hill Intl	4th Grade	27	Mandarin	Listening			3.96				
End 3rd: NM-NH	Beacon Hill Intl	4th Grade	27	Mandarin	Speaking			3.41				
End 3rd: NM-NH	John Stanford Intl	4th Grade	38	Japanese	Reading			3.16				
End 3rd: NM-NH	John Stanford Intl	4th Grade	38	Japanese	Writing		2.78					
End 3rd: NM-NH	John Stanford Intl	4th Grade	38	Japanese	Listening				4.13			
End 3rd: NM-NH	John Stanford Intl	4th Grade	38	Japanese	Speaking			3.19				
End 3rd: NM-NH	McDonald Intl	4th Grade	38	Japanese	Reading		2.16					
End 3rd: NM-NH	McDonald Intl	4th Grade	38	Japanese	Writing		2.92					
End 3rd: NM-NH	McDonald Intl	4th Grade	38	Japanese	Listening			3.68				
End 3rd: NM-NH	McDonald Intl	4th Grade	38	Japanese	Speaking			3.00				

End of 5th Grade Benchmark NH-IL: On average, in all of the DLI programs, students reached the Target Proficiency levels (Novice High to Intermediate Low) but did not exceed them. As expected, Reading in Mandarin and Japanese tend to be lower than for Spanish. In the 2016 sample, it is a bit unusual that Listening would be lower (in this case, in Spanish and Japanese).

Table 7. End of 5th Grade Benchmarks

Benchmark Targets	School	Class	Student Count (I	Language	Skill	AVE 1 - NL	AVE 2 - NM	AVE 3 - NH	AVE 4 - IL	AVE 5 - IM	AVE 6 - IH	AVE 7 - AL
End 5th: NH-IL	Denny Intl MS	6th Grade	55	Spanish	Reading			**3.27**				
End 5th: NH-IL	Denny Intl MS	6th Grade	55	Spanish	Writing			**3.69**				
End 5th: NH-IL	Denny Intl MS	6th Grade	55	Spanish	Listening		**2.96**					
End 5th: NH-IL	Denny Intl MS	6th Grade	55	Spanish	Speaking			**3.65**				
End 5th: NH-IL	Mercer Intl MS	6th Grade	19	Spanish	Reading			**3.95**				
End 5th: NH-IL	Mercer Intl MS	6th Grade	19	Spanish	Writing				**4.11**			
End 5th: NH-IL	Mercer Intl MS	6th Grade	19	Spanish	Listening			**3.79**				
End 5th: NH-IL	Mercer Intl MS	6th Grade	19	Spanish	Speaking			**3.74**				
End 5th: NH-IL	Hamilton Intl MS	6th Grade	61	Spanish	Reading				**4.00**			
End 5th: NH-IL	Hamilton Intl MS	6th Grade	61	Spanish	Writing			**3.47**				
End 5th: NH-IL	Hamilton Intl MS	6th Grade	61	Spanish	Listening				**4.12**			
End 5th: NH-IL	Hamilton Intl MS	6th Grade	61	Spanish	Speaking			**3.90**				

Table 8. End of 5th Grade Benchmarks

Benchmark Targets	School	Class	Student Count (I	Language	Skill	AVE 1 - NL	AVE 2 - NM	AVE 3 - NH	AVE 4 - IL	AVE 5 - IM	AVE 6 - IH	AVE 7 - AL
End 5th: NH-IL	Mercer Intl MS	6th Grade	16	Mandarin	Reading		**2.00**					
End 5th: NH-IL	Mercer Intl MS	6th Grade	16	Mandarin	Writing			**3.44**				
End 5th: NH-IL	Mercer Intl MS	6th Grade	16	Mandarin	Listening			**3.13**				
End 5th: NH-IL	Mercer Intl MS	6th Grade	16	Mandarin	Speaking			**3.43**				
End 5th: NH-IL	Hamilton Intl MS	6th Grade	45	Japanese	Reading		**2.71**					
End 5th: NH-IL	Hamilton Intl MS	6th Grade	45	Japanese	Writing			**3.07**				
End 5th: NH-IL	Hamilton Intl MS	6th Grade	45	Japanese	Listening		**2.98**					
End 5th: NH-IL	Hamilton Intl MS	6th Grade	45	Japanese	Speaking			**3.14**				

- 6th grade students at Denny came from 5th grade at Concord Intl or other neighborhood schools
- 6th grade students at Mercer came from 5th grade at Beacon Hill Intl
- 6th grade students at Hamilton came from 5th grade at John Stanford Intl or McDonald Intl

End of 8th Grade Benchmark IL-IM: On average, in the Spanish and Mandarin DLI programs, students reached the Target Proficiency levels (Intermediate Low to Intermediate Mid).

Table 9. End of 8th Grade Benchmarks

Test	Test Period	Benchmark Targets	School	Class	Student Count (N)	Language	Skill	AVE 1 - NL	AVE 2 - NM	AVE 3 - NH	AVE 4 - IL	AVE 5 - IM	AVE 6 - IH	AVE 7 - AL
STAMP4S	2017Spring	**End 8th: IL-IM**	Denny Intl MS	8th Grade	52	Spanish	Reading				4.50			
STAMP4S	2017Spring	**End 8th: IL-IM**	Denny Intl MS	8th Grade	52	Spanish	Writing					5.23		
STAMP4S	2017Spring	**End 8th: IL-IM**	Denny Intl MS	8th Grade	52	Spanish	Listening				4.90			
STAMP4S	2017Spring	**End 8th: IL-IM**	Denny Intl MS	8th Grade	52	Spanish	Speaking					5.25		
STAMP4S	2017Spring	**End 8th: IL-IM**	Mercer Intl MS	8th Grade	27	Spanish	Reading					5.26		
STAMP4S	2017Spring	**End 8th: IL-IM**	Mercer Intl MS	8th Grade	27	Spanish	Writing				4.48			
STAMP4S	2017Spring	**End 8th: IL-IM**	Mercer Intl MS	8th Grade	27	Spanish	Listening					5.7		
STAMP4S	2017Spring	**End 8th: IL-IM**	Mercer Intl MS	8th Grade	27	Spanish	Speaking				4.81			
STAMP4S	2017Spring	**End 8th: IL-IM**	Hamilton Intl MS	8th Grade	35	Spanish	Reading						6.31	
STAMP4S	2017Spring	**End 8th: IL-IM**	Hamilton Intl MS	8th Grade	35	Spanish	Writing				4.80			
STAMP4S	2017Spring	**End 8th: IL-IM**	Hamilton Intl MS	8th Grade	35	Spanish	Listening						6.03	
STAMP4S	2017Spring	**End 8th: IL-IM**	Hamilton Intl MS	8th Grade	35	Spanish	Speaking				4.97			

Table 10. End of 8th Grade Benchmarks

Test	Test Period	Benchmark Targets	School	Class	Student Count (N)	Language	Skill	AVE 1 - NL	AVE 2 - NM	AVE 3 - NH	AVE 4 - IL	AVE 5 - IM	AVE 6 - IH	AVE 7 - AL
STAMP4S	2017Spring	**End 8th: IL-IM**	Mercer Intl MS	8th Grade	26	Mandarin	Reading				4.73			
STAMP4S	2017Spring	**End 8th: IL-IM**	Mercer Intl MS	8th Grade	26	Mandarin	Writing				4.69			
STAMP4S	2017Spring	**End 8th: IL-IM**	Mercer Intl MS	8th Grade	26	Mandarin	Listening					5.00		
STAMP4S	2017Spring	**End 8th: IL-IM**	Mercer Intl MS	8th Grade	26	Mandarin	Speaking				4.65			
STAMP4S	2017Spring	**End 8th: IL-IM**	Hamilton Intl MS	8th Grade	16	Japanese	Reading			3.63				
STAMP4S	2017Spring	**End 8th: IL-IM**	Hamilton Intl MS	8th Grade	16	Japanese	Writing			3.31				
STAMP4S	2017Spring	**End 8th: IL-IM**	Hamilton Intl MS	8th Grade	16	Japanese	Listening			3.50				
STAMP4S	2017Spring	**End 8th: IL-IM**	Hamilton Intl MS	8th Grade	16	Japanese	Speaking			3.88				

Note that Japanese at middle school has struggled to meet the target proficiency levels at the end of 8th grade. According to the Interagency Language Roundtable, it takes English speakers about twice as long to reach the proficiency levels of Intermediate Low to Intermediate Mid in Japanese, compared to Spanish. With only one period of Japanese language a day in middle school, it is not really feasible for most students to reach those targets. Mandarin Chinese now gets two periods per day in middle school (Social Studies and Chinese Language Arts), and a larger percentage of students are now reaching the targets at 8th grade.

Question 2: What is the range of proficiency within a class?

End of 3rd Grade Benchmark NM-NH: This table makes clear the tremendous range of proficiency demonstrated in a single class, especially in Reading and Listening. Sometimes that is due to the presence of both native/heritage speakers intermixed with the second language learners. (When we have data on ELL status, we can disaggregate). Sometimes there are children with special needs who are being served well in the DLI program but cannot be expected to meet the same proficiency targets.

Table 11. End of 3rd Grade Benchmarks

Benchmark Targets	School	Class	Student Count (I	Language	Skill	1 - NL	2 - NM	3 - NH	4 - IL	5 - IM	6 - IH	7 - AL	8 - AM	9 - AH	NS or NC	Total
End 3rd: NM-NH	Concord Intl	4th Grade	33	Spanish	Reading		24%	9%	36%	27%	3%					99%
End 3rd: NM-NH	Concord Intl	4th Grade	33	Spanish	Writing		9%	18%	55%	12%					6%	100%
End 3rd: NM-NH	Concord Intl	4th Grade	33	Spanish	Listening	3%	3%	9%	21%	39%	24%					99%
End 3rd: NM-NH	Concord Intl	4th Grade	33	Spanish	Speaking		18%	24%	27%	15%					15%	99%
End 3rd: NM-NH	Beacon Hill Intl	4th Grade	25	Spanish	Reading		16%	8%	28%	36%	4%				8%	100%
End 3rd: NM-NH	Beacon Hill Intl	4th Grade	25	Spanish	Writing		8%	36%	36%	12%					8%	100%
End 3rd: NM-NH	Beacon Hill Intl	4th Grade	25	Spanish	Listening			8%	32%	32%	20%				8%	100%
End 3rd: NM-NH	Beacon Hill Intl	4th Grade	25	Spanish	Speaking			64%	20%						16%	100%
End 3rd: NM-NH	John Stanford Intl	4th Grade	24	Spanish	Reading	8%	8%	8%	38%	25%	13%					100%
End 3rd: NM-NH	John Stanford Intl	4th Grade	24	Spanish	Writing		8%	38%	42%	8%						96%
End 3rd: NM-NH	John Stanford Intl	4th Grade	24	Spanish	Listening			21%	42%	25%	13%					101%
End 3rd: NM-NH	John Stanford Intl	4th Grade	24	Spanish	Speaking	4%	8%	50%	33%	4%						99%
End 3rd: NM-NH	McDonald Intl	4th Grade	39	Spanish	Reading		3%	18%	21%	51%	8%					101%
End 3rd: NM-NH	McDonald Intl	4th Grade	39	Spanish	Writing		15%	46%	33%	5%						99%
End 3rd: NM-NH	McDonald Intl	4th Grade	39	Spanish	Listening				23%	36%	41%					100%
End 3rd: NM-NH	McDonald Intl	4th Grade	39	Spanish	Speaking	8%	18%	38%	28%	5%					3%	100%

Table 12. End of 3rd Grade Benchmarks

Benchmark Targets	School	Class	Student Count (I	Language	Skill	1 - NL	2 - NM	3 - NH	4 - IL	5 - IM	6 - IH	7 - AL	8 - AM	9 - AH	NS or NC	Total
End 3rd: NM-NH	Beacon Hill Intl	4th Grade	27	Mandarin	Reading	30%	33%	15%	15%		7%					100%
End 3rd: NM-NH	Beacon Hill Intl	4th Grade	27	Mandarin	Writing	4%	4%	22%	67%	4%						101%
End 3rd: NM-NH	Beacon Hill Intl	4th Grade	27	Mandarin	Listening	4%		19%	56%	19%	4%					102%
End 3rd: NM-NH	Beacon Hill Intl	4th Grade	27	Mandarin	Speaking		11%	41%	44%	4%						100%
End 3rd: NM-NH	John Stanford Intl	4th Grade	38	Japanese	Reading	11%	21%	29%	29%	3%	8%					101%
End 3rd: NM-NH	John Stanford Intl	4th Grade	38	Japanese	Writing	3%	37%	39%	16%	3%					3%	101%
End 3rd: NM-NH	John Stanford Intl	4th Grade	38	Japanese	Listening	5%		24%	34%	21%	16%					100%
End 3rd: NM-NH	John Stanford Intl	4th Grade	38	Japanese	Speaking		16%	50%	29%	3%					3%	101%
End 3rd: NM-NH	McDonald Intl	4th Grade	38	Japanese	Reading	39%	32%	18%		5%	5%					99%
End 3rd: NM-NH	McDonald Intl	4th Grade	38	Japanese	Writing	3%	29%	47%	16%	5%						100%
End 3rd: NM-NH	McDonald Intl	4th Grade	38	Japanese	Listening	5%	5%	37%	34%	5%	13%					99%
End 3rd: NM-NH	McDonald Intl	4th Grade	38	Japanese	Speaking		34%	37%	18%	8%					3%	100%

End of 5th Grade Benchmark NH-IL: The same pattern of wide range of proficiency within each class is even more marked at the 5th grade benchmark. There are also larger percentages of students below target, especially in Reading, and sometimes Writing, in Mandarin and Japanese. These STAMP data have helped provide the motivation to launch the Chinese Literacy Project funded by the Confucius Institute. We expect to see substantial improvement in the coming years. (Note: there are also known issues with the STAMP test for Reading for Chinese; we and other districts are working with Avant Assessment, the assessment provider, on making improvements to the test itself.) Still, for most languages and most skills, more than 80% of the students are meeting or exceeding the target proficiency levels for end of elementary DLI. That gives us confidence that most can make it to the target proficiency levels for 8th grade (Intermediate Low – Intermediate High).

Table 13. End of 5th Grade Benchmarks

Benchmark Targets	School	Class	Student Count (I	Language	Skill	1 - NL	2 - NM	3 - NH	4 - IL	5 - IM	6 - IH	7 - AL	8 - AM	9 - AH	NS or NC	Total
End 5th: NH-IL	Denny Intl MS	6th Grade	55	Spanish	Reading		20%	51%	16%	9%	2%	2%				100%
End 5th: NH-IL	Denny Intl MS	6th Grade	55	Spanish	Writing	4%	13%	25%	33%	20%	5%					100%
End 5th: NH-IL	Denny Intl MS	6th Grade	55	Spanish	Listening	4%	20%	60%	15%				2%			101%
End 5th: NH-IL	Denny Intl MS	6th Grade	55	Spanish	Speaking		7%	40%	36%	11%	2%	2%			2%	100%
End 5th: NH-IL	Mercer Intl MS	6th Grade	19	Spanish	Reading		5%	37%	26%	21%	11%					100%
End 5th: NH-IL	Mercer Intl MS	6th Grade	19	Spanish	Writing	5%		21%	37%	26%	11%					100%
End 5th: NH-IL	Mercer Intl MS	6th Grade	19	Spanish	Listening	5%		63%	5%	5%	11%	11%				100%
End 5th: NH-IL	Mercer Intl MS	6th Grade	19	Spanish	Speaking	5%	5%	26%	37%	26%						99%
End 5th: NH-IL	Hamilton Intl MS	6th Grade	61	Spanish	Reading		7%	33%	23%	28%	7%	2%			2%	102%
End 5th: NH-IL	Hamilton Intl MS	6th Grade	61	Spanish	Writing		8%	39%	44%	5%					3%	99%
End 5th: NH-IL	Hamilton Intl MS	6th Grade	61	Spanish	Listening		7%	34%	21%	18%	8%	8%			3%	99%
End 5th: NH-IL	Hamilton Intl MS	6th Grade	61	Spanish	Speaking		3%	21%	52%	18%					5%	99%

Table 14. End of 5th Grade Benchmarks

Benchmark Targets	School	Class	Student Count (I	Language	Skill	1 - NL	2 - NM	3 - NH	4 - IL	5 - IM	6 - IH	7 - AL	8 - AM	9 - AH	NS or NC	Total
End 5th: NH-IL	Mercer Intl MS	6th Grade	16	Mandarin	Reading	19%	75%			6%						100%
End 5th: NH-IL	Mercer Intl MS	6th Grade	16	Mandarin	Writing	6%	13%	19%	56%	6%						100%
End 5th: NH-IL	Mercer Intl MS	6th Grade	16	Mandarin	Listening	6%	13%	50%	25%	6%						100%
End 5th: NH-IL	Mercer Intl MS	6th Grade	16	Mandarin	Speaking		6%	38%	44%						13%	101%
End 5th: NH-IL	Hamilton Intl MS	6th Grade	45	Japanese	Reading	4%	27%	62%	7%							100%
End 5th: NH-IL	Hamilton Intl MS	6th Grade	45	Japanese	Writing		22%	44%	29%						4%	99%
End 5th: NH-IL	Hamilton Intl MS	6th Grade	45	Japanese	Listening		11%	82%	4%	2%						99%
End 5th: NH-IL	Hamilton Intl MS	6th Grade	45	Japanese	Speaking	4%	9%	53%	27%	2%					4%	99%

End of 8th Grade Benchmark IL-IM: In 8th grade, the tremendous range of proficiency demonstrated in a single class continues. What we do not always have clear information about is at what point the students who fell below the target range entered the DLI cohort (did they join after Kindergarten, for example). What is clear is that many students are demonstrating proficiency well above our targets, especially in Reading and Listening in Spanish.

Table 15. End of 8th Grade Benchmarks

Test	Test Period	Benchmark Targets	School	Class	Student Count (N)	Language	Skill	1 - NL	2 - NM	3 - NH	4 - IL	5 - IM	6 - IH	7 - AL	8 - AM	9 - AH	NS or NC	Total
STAMP4S	2017Spring	**End 8th: IL-IM**	Denny Intl MS	8th Grade	52	Spanish	Reading		8%	27%	25%	8%	15%	15%	2%			100%
STAMP4S	2017Spring	**End 8th: IL-IM**	Denny Intl MS	8th Grade	52	Spanish	Writing			4%	17%	35%	40%	4%				100%
STAMP4S	2017Spring	**End 8th: IL-IM**	Denny Intl MS	8th Grade	52	Spanish	Listening			35%	12%	15%	13%	17%	8%			100%
STAMP4S	2017Spring	**End 8th: IL-IM**	Denny Intl MS	8th Grade	52	Spanish	Speaking		2%	2%	13%	40%	37%	6%				100%
STAMP4S	2017Spring	**End 8th: IL-IM**	Denny Intl MS	8th Grade	18	Spanish	Reading		11%	28%	28%	6%	6%	22%				101%
STAMP4S	2017Spring	**End 8th: IL-IM**	Denny Intl MS	8th Grade	18	Spanish	Writing				6%	56%	39%					101%
STAMP4S	2017Spring	**End 8th: IL-IM**	Denny Intl MS	8th Grade	18	Spanish	Listening			28%	22%	17%	11%	17%	6%			101%
STAMP4S	2017Spring	**End 8th: IL-IM**	Denny Intl MS	8th Grade	18	Spanish	Speaking		6%		17%	44%	22%	11%				100%
STAMP4S	2017Spring	**End 8th: IL-IM**	Denny Intl MS	8th Grade	34	Spanish	Reading		6%	26%	24%	9%	21%	12%	3%			101%
STAMP4S	2017Spring	**End 8th: IL-IM**	Denny Intl MS	8th Grade	34	Spanish	Writing			6%	24%	24%	41%	6%				101%
STAMP4S	2017Spring	**End 8th: IL-IM**	Denny Intl MS	8th Grade	34	Spanish	Listening			38%	6%	15%	15%	18%	9%			101%
STAMP4S	2017Spring	**End 8th: IL-IM**	Denny Intl MS	8th Grade	34	Spanish	Speaking			3%	12%	38%	44%	3%				100%
STAMP4S	2017Spring	**End 8th: IL-IM**	Mercer Intl MS	8th Grade	27	Spanish	Reading			15%	22%	22%	15%	15%	11%			100%
STAMP4S	2017Spring	**End 8th: IL-IM**	Mercer Intl MS	8th Grade	27	Spanish	Writing			7%	52%	26%	15%					100%
STAMP4S	2017Spring	**End 8th: IL-IM**	Mercer Intl MS	8th Grade	27	Spanish	Listening			7%	22%	15%	15%	30%	11%			100%
STAMP4S	2017Spring	**End 8th: IL-IM**	Mercer Intl MS	8th Grade	27	Spanish	Speaking		4%	7%	26%	33%	26%	4%				100%
STAMP4S	2017Spring	**End 8th: IL-IM**	Hamilton Intl MS	8th Grade	35	Spanish	Reading			6%	6%	17%	20%	31%	14%	6%		100%
STAMP4S	2017Spring	**End 8th: IL-IM**	Hamilton Intl MS	8th Grade	35	Spanish	Writing		3%	3%	31%	40%	20%	3%				100%
STAMP4S	2017Spring	**End 8th: IL-IM**	Hamilton Intl MS	8th Grade	35	Spanish	Listening			11%	3%	14%	37%	14%	17%	3%		99%
STAMP4S	2017Spring	**End 8th: IL-IM**	Hamilton Intl MS	8th Grade	35	Spanish	Speaking				34%	34%	31%					99%

Table 16. End of 8th Grade Benchmarks

Test	Test Period	Benchmark Targets	School	Class	Student Count (N)	Language	Skill	1 - NL	2 - NM	3 - NH	4 - IL	5 - IM	6 - IH	7 - AL	8 - AM	9 - AH	NS or NC	Total
STAMP4S	2017Spring	**End 8th: IL-IM**	Mercer Intl MS	8th Grade	26	Mandarin	Reading		15%	8%	4%	35%	38%					100%
STAMP4S	2017Spring	**End 8th: IL-IM**	Mercer Intl MS	8th Grade	26	Mandarin	Writing				46%	38%	15%					99%
STAMP4S	2017Spring	**End 8th: IL-IM**	Mercer Intl MS	8th Grade	26	Mandarin	Listening				27%	50%	19%	4%				100%
STAMP4S	2017Spring	**End 8th: IL-IM**	Mercer Intl MS	8th Grade	26	Mandarin	Speaking			8%	35%	46%	8%	4%				101%
STAMP4S	2017Spring	**End 8th: IL-IM**	Hamilton Intl MS	8th Grade	16	Japanese	Reading		13%	56%	6%	13%	6%	6%				100%
STAMP4S	2017Spring	**End 8th: IL-IM**	Hamilton Intl MS	8th Grade	16	Japanese	Writing		6%	75%	6%	6%	6%					99%
STAMP4S	2017Spring	**End 8th: IL-IM**	Hamilton Intl MS	8th Grade	16	Japanese	Listening		6%	75%	6%			13%				100%
STAMP4S	2017Spring	**End 8th: IL-IM**	Hamilton Intl MS	8th Grade	16	Japanese	Speaking			44%	44%		6%	6%				100%

Competency-Based Credits by 8th Grade

At 8th grade, the results of the STAMP testing are used for Competency-Based Credits, i.e. determining how many high school credits a student in DLI may qualify for. Based on Superintendent Procedure 2409SP Competency/Proficiency High School Credit for World Languages, students may qualify for 1-4 world language credits based on the overall common proficiency level from their testing. Here are the results from the 2017 Spring testing at the three International Middle Schools. Only a small percentage (3%-15%) received 1 credit; except for Japanese, close to 50% or higher met the target of 3-4 credits.

Table 17. Competency-Based Credits by 8th Grade

Test	Test Period	Benchmark Targets	School	Class	Student Count (N)	Language	1 Credit (overall NM)	2 Credits (overall NH)	3 Credits (overall IL)	4 Credits (overall IM)
STAMP4S	2017Spring	**End 8th: IL-IM**	Denny Intl MS	8th Grade	52	Spanish	10%	38%	17%	31%
STAMP4S	2017Spring	**End 8th: IL-IM**	Mercer Intl MS	8th Grade	27	Spanish	4%	22%	44%	30%
STAMP4S	2017Spring	**End 8th: IL-IM**	Hamilton Intl MS	8th Grade	35	Spanish	3%	11%	31%	54%

Table 18. Competency-Based Credits by 8th Grade

Test	Test Period	Benchmark Targets	School	Class	Student Count (N)	Language	1 Credit (overall NM)	2 Credits (overall NH)	3 Credits (overall IL)	4 Credits (overall IM)
STAMP4S	2017Spring	**End 8th: IL-IM**	Mercer Intl MS	8th Grade	26	Mandarin	15%	8%	46%	31%
STAMP4S	2017Spring	**End 8th: IL-IM**	Hamilton Intl MS	8th Grade	16	Japanese	13%	75%		13%

Seal of Biliteracy and High School Target of Advanced Proficiency

Based on 8th grade STAMP testing, students have the opportunity to qualify as "Proficient" for the State Seal of Biliteracy. The Seal is intended to highlight the benefits in today's world of speaking, reading, and writing English and at least one other language. Graduating seniors who have demonstrated their language skills through World Language Credit Testing (earning 4 credits) or by passing Advanced Placement (AP) or International Baccalaureate (IB) language exams will have the honor of receiving the State Seal of Biliteracy on their diploma and notated on their transcript when they graduate high school.

Based on the 8th grade STAMP testing in 2017, we can see that already at the end of 8th grade, a number of students in DLI programs have qualified as Proficient:

- Spanish: from 30-54% of students qualified as Proficient
- Mandarin: 31% qualified
- Japanese: 13% qualified

Besides the STAMP test, many DLI students go on to take AP or IB tests in high school. In 2016-2017, Chief Sealth International High School offered AP Spanish 5 in 9th grade to Dual Language Immersion students (some of whom had originally started in Kindergarten DLI at Concord International School). Since it was a pilot year with a new curriculum, not all students chose to take the AP exam in spring 2017. Of those that did (30), the vast majority qualified as Proficient for the Seal of Biliteracy. Their scores ranged as follows:

- AP Spanish exam **score of 3**: 34% of students (could qualify for 5 college credits)
- AP Spanish exam **score of 4**: 52% of students (could qualify for 10 college credits)
- AP Spanish exam **score of 5**: 14% of students (could qualify for 15 college credits)

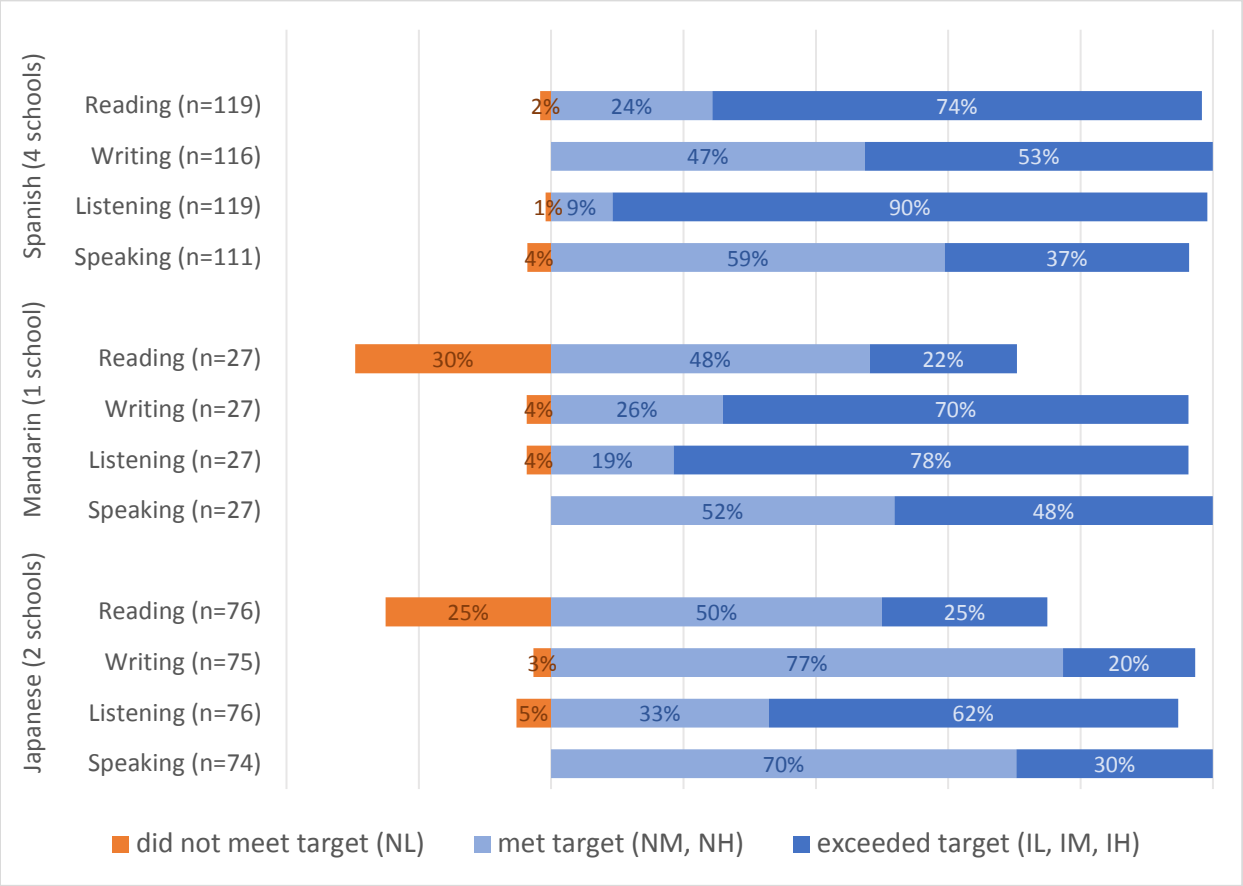
Of course, the goal of Dual Language Immersion is take students to Advanced Level Proficiency by end of high school. The students who got a score of 5 on the AP Spanish exam could be considered to have demonstrated Advanced Level Proficiency – and that by 9th grade. In addition, the students who got Advanced level (STAMP level 7, 8, or 9) in 8th grade in one or more skills are well on their way to meeting the goal for end of high school.

Because the first cohorts of DLI students who began in the early 2000's at John Stanford International School were quite small, we have only been able to track a few of the students who graduated high school in 2015, 2016, or 2017 with the Seal of Biliteracy. Most of them earned it through IB testing at Ingraham International High School, but some earned it through AP testing at Garfield, Roosevelt, or Ballard. In the coming years, it will be important to carefully follow the DLI students from middle school through high school to document the percentage of students earning the State Seal of Biliteracy. Just as important, we need to identify the percentage of students reaching the promise of Advanced Level Proficiency by the end of high school as specified in the International Education Seattle School Board Policy No 2177 (adopted May 15, 2012).

Language Proficiency based on STAMP – Descriptive Analysis

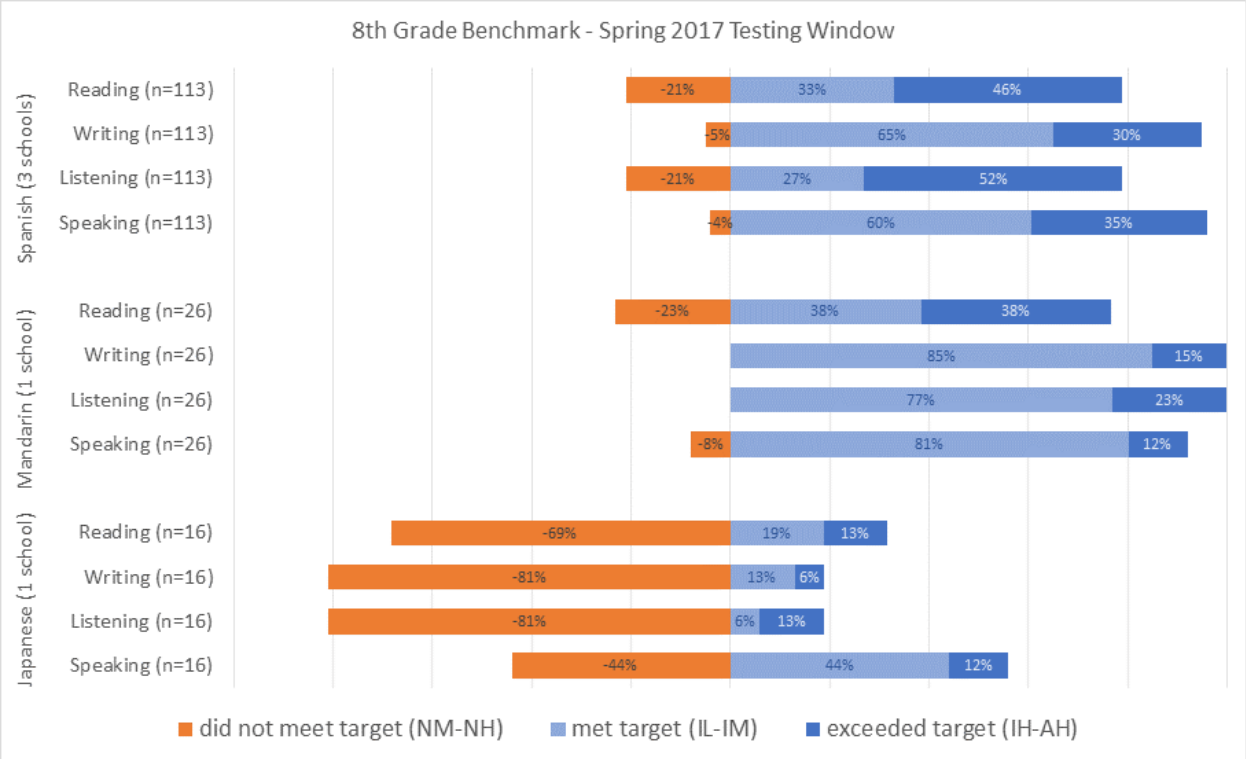
The full report contains Standards-Based Measurement of Proficiency (STAMP) results for 5th grade benchmarks, all of which are from the Fall 2016 STAMP testing window. The following figures provide similar analysis of 3rd grade and 8th grade students.

Figure 1. 3rd Grade Benchmark -- Fall 2016 Testing Window



As shown above, across all of the DLI programs and languages, the vast majority of 3rd grade students reached the Target Proficiency levels (Novice Mid to Novice High) in all skills and, in many cases, they exceeded the targets. Skills with the lowest proficiency levels are generally reading and writing in Japanese or Mandarin, which may be attributable to the challenges of learning to read a character-based language.

Figure 2. 8th Grade Benchmark -- Spring 2017 Testing Window



For 8th grade, it is worthy to note that Japanese at middle school has struggled to meet the target proficiency levels at the end of 8th grade of Intermediate Low to Intermediate Mid. According to the Interagency Language Roundtable, it takes English speakers about twice as long to reach the proficiency levels of Intermediate Low to Intermediate Mid in Japanese, compared to Spanish. With only one period of Japanese language a day in middle school, it may be difficult for most students to reach those targets. The International Education office reports that Mandarin Chinese now gets two periods per day in middle school (Social Studies and Chinese Language Arts), and a larger percentage of students are now reaching the targets.

Impact Analyses

Table 19. Characteristics of 2016-17 DLI Students, non-DLI Students, and Matched Students

	DLI Students	All District non-DLI Students	Non-DLI Matched Controls
N	1,182	22,255	1,182
Gender			
% Male	52.7	51.0	53.4
% Female	47.2	49.0	46.7
Race/Ethnicity			
% White	38.2	50.4	38.2
% Asian	12.7	12.7	12.5
% Black	2.5	14.8	2.4
% Hispanic	36.0	10.7	36.2
% Other[i]	10.7	11.3	10.7
Home Language			
% English	59.5	78.3	60.2
% Spanish	28.6	5.4	28.7
% Japanese	2.6	0.4	1.9
% Cantonese or Toishanese	5.5	1.6	5.5
% Other	3.8	14.3	3.8
Program			
% FRL	34.2	31.4	34.4
% Special Ed	9.5	14.1	9.2
% ELL	16.9	9.5	17.5
% ELL Exited	19.0	10.2	17.8
% gifted	10.5	11.0	10.0
Other Characteristics			
% homeless	2.0	6.0	1.9
% attending neighborhood school	52.0	63.5	50.9

Table 20. Characteristics of 2015-16 DLI Students, non-DLI Students, and Matched Students

	DLI Students	All District non-DLI Students	Non-DLI Matched Controls
N	1,032	16,727	1,032
Gender			
% Male	51.7	50.7	52.4
% Female	48.3	49.3	47.6
Race/Ethnicity			
% White	37.3	50.7	37.8
% Asian	13.1	13.1	13.2
% Black	2.0	15.1	2.1
% Hispanic	38.1	10.4	38.1
% Other[ii]	9.5	10.6	8.8
Home Language			
% English	57.6	78.9	58.5
% Spanish	30.3	5.2	30.4
% Japanese	2.4	0.3	1.1
% Cantonese or Toishanese	5.6	1.4	6.6
% Other	4.1	14.1	3.4
Program			
% FRL	37.6	32.5	37.7
% Special Ed	9.2	14.0	9.8
% ELL	18.6	9.3	18.5
% ELL Exited	19.1	9.5	18.9
% gifted	10.0	10.0	10.3
Other Characteristics			
% attending neighborhood school	50.1	63.7	48.7

Table 21. 2016-17 Smarter Balanced ELA Multilevel Linear Regression Results – Overall

	Unstandardized Scale Scores	Std. Error	t value	Effect size
Intercept	2505.63	4.48	559.9	
DLI	12.67	5.83	2.2*	.12
Asian	-14.18	5.81	-2.4*	
Black	-56.68	9.15	-6.2*	
Hispanic	-34.06	5.15	-6.6*	
Other	-13.39	4.86	-2.8*	
grade4	40.24	4.32	9.3*	
grade5	89.95	4.28	21.0*	
grade6	102.75	6.16	16.7*	
grade7	136.35	6.38	21.4*	
grade8	143.54	6.35	22.6*	
Male	-21.24	2.73	-7.8*	
Special Education	-46.56	4.83	-9.6*	
ELL	-85.69	4.77	-18.0*	
Low income	-30.01	4.32	-6.9*	
Gifted	66.55	5.08	13.1*	
Spanish	-1.36	5.62	-0.2	
Japanese	-6.00	9.73	-0.6	
Cantonese or Toishanese	14.98	8.48	1.8	
Other	10.93	7.58	1.4	

Table 22. 2016-17 Smarter Balanced ELA Multilevel Linear Regression Results – by Program Language

	Unstandardized Scale Scores	Std. Error	t value	Effect size
Intercept	2505.15	4.53	553.6	
Japanese DLI	-3.64	7.48	-0.5	-
Mandarin DLI	24.35	9.59	2.5*	0.23
Spanish DLI	17.80	6.39	2.8*	0.16
Asian	-13.62	5.86	-2.3*	
Black	-57.61	9.13	-6.3*	
Hispanic	-35.12	5.15	-6.8*	
Other	-11.91	4.88	-2.4*	
grade4	41.06	4.31	9.5*	
grade5	89.87	4.27	21.1*	
grade6	102.93	6.33	16.3*	
grade7	137.42	6.54	21.0*	
grade8	143.63	6.50	22.1*	
Male	-21.19	2.71	-7.8*	
Special Education	-46.57	4.81	-9.7*	
ELL	-84.70	4.76	-17.8*	
Low income	-29.84	4.31	-6.9*	
Gifted	66.00	5.08	13.0*	
Spanish	-1.66	5.61	-0.3	
Japanese	0.16	9.81	0.0	
Cantonese or Toishanese	11.43	8.66	1.3	
Other	10.35	7.56	1.4	

Table 23. 2016-17 Smarter Balanced Math Multilevel Linear Regression Results – Overall

	Unstandardized Scale Scores	Std. Error	t value	Effect size
Intercept	2497.63	4.79	521.8	
DLI	23.49	5.96	3.9*	.22
Asian	13.58	6.30	2.2*	
Black	-51.45	9.76	-5.3*	
Hispanic	-34.15	5.54	-6.28	
Other	-10.45	5.31	-2.0*	
grade4	37.90	4.72	8.0*	
grade5	70.42	4.62	15.2*	
grade6	101.35	6.49	15.6*	
grade7	120.06	6.72	17.9*	
grade8	139.86	6.70	20.9*	
Male	3.43	2.94	1.2	
Special Education	-46.86	5.20	-9.0*	
ELL	-67.15	5.11	-13.2*	
Low income	-29.93	4.63	-6.5*	
Gifted	93.19	5.42	17.2*	
Spanish	0.45	6.04	0.1	
Japanese	15.65	10.75	1.5	
Cantonese or Toishanese	27.85	9.09	3.1*	
Other	17.29	8.17	2.1*	

Table 24. 2016-17 Smarter Balanced Math Multilevel Linear Regression Results – by Program Language

	Unstandardized Scale Scores	Std. Error	t value	Effect size
Intercept	2497.40	4.79	520.9	
Japanese DLI	15.18	7.66	2.0*	0.14
Mandarin DLI	40.49	9.84	4.1*	0.37
Spanish DLI	23.20	6.23	3.7*	0.21
Asian	12.06	6.38	1.9	
Black	-51.47	9.76	-5.3*	
Hispanic	-33.86	5.56	-6.1*	
Other	-10.57	5.33	-2.0*	
grade4	38.29	4.72	8.1*	
grade5	70.70	4.62	15.3*	
grade6	101.41	6.52	15.6*	
grade7	120.47	6.76	17.8*	
grade8	140.19	6.72	20.9*	
Male	3.55	2.94	1.2	
Special Education	-46.83	5.19	-9.0*	
ELL	-66.26	5.11	-13.0*	
Low income	-29.88	4.62	-6.5*	
Gifted	93.02	5.42	17.2*	
Spanish	0.35	6.04	0.1	
Japanese	18.84	10.87	1.7	
Cantonese or Toishanese	23.86	9.29	2.6*	
Other	16.32	8.17	2.0*	

Table 25. 2015-16 Smarter Balanced ELA Multilevel Linear Regression Results – Overall

	Unstandardized Scale Scores	Std. Error	t value	Effect size
Intercept	2505.80	5.03	497.8	
DLI	15.69	7.84	2.0*	.15
Asian	-9.47	6.28	-1.5	
Black	-46.38	10.70	-4.3*	
Hispanic	-23.08	5.56	-4.2*	
Other	-19.59	5.54	-3.5*	
grade4	45.07	4.32	10.4*	
grade5	84.60	4.83	17.5*	
grade6	83.51	7.31	11.4*	
grade7	115.06	7.35	15.7*	
grade8	138.89	8.29	16.8*	
Male	-14.71	2.91	-5.1*	
Special Education	-53.12	5.12	-10.4*	
ELL	-78.13	4.97	-15.7*	
Low income	-36.93	4.86	-7.6*	
Gifted	76.72	5.75	13.3*	
Spanish	5.43	5.98	0.9	
Japanese	8.81	11.68	0.8	
Cantonese or Toishanese	20.90	9.29	2.3*	
Other	11.89	8.15	1.5	

Table 26. 2015-16 Smarter Balanced ELA Multilevel Linear Regression Results – by Program Language

	Unstandardized Scale Scores	Std. Error	t value	Effect size
Intercept	2505.77	5.11	490.3	
Japanese DLI	5.56	9.47	0.6	-
Mandarin DLI	14.38	11.50	1.3	-
Spanish DLI	19.81	8.30	2.4*	.19
Asian	-8.29	6.59	-1.3	
Black	-46.08	10.72	-4.3*	
Hispanic	-25.54	5.72	-4.5*	
Other	-19.48	5.67	-3.4*	
grade4	44.71	4.36	10.3*	
grade5	85.58	4.96	17.3*	
grade6	85.41	7.44	11.5*	
grade7	116.13	7.46	15.6*	
grade8	137.48	8.79	15.6*	
Male	-13.54	2.97	-4.6*	
Special Education	-52.59	5.29	-9.9*	
ELL	-76.47	5.08	-15.0*	
Low income (isli?)	-38.28	4.98	-7.7*	
Gifted	73.36	6.05	12.1*	
Spanish	5.66	6.15	0.9	
Japanese	13.70	12.13	1.1	
Cantonese or Toishanese	23.57	9.76	2.4*	
Other	8.78	8.52	1.0	

Table 27. 2015-16 Smarter Balanced Math Multilevel Linear Regression Results – Overall

	Unstandardized Scale Scores	Std. Error	t value	Effect size
Intercept	2499.16	5.14	486.2	
DLI	23.13	7.60	3.0*	.22
Asian	6.89	6.53	1.1	
Black	-52.90	11.09	-4.8*	
Hispanic	-35.79	5.77	-6.2*	
Other	-16.90	5.76	-2.9*	
grade4	51.10	4.50	11.4*	
grade5	71.42	5.01	14.3*	
grade6	90.05	7.38	12.2*	
grade7	114.07	7.43	15.4*	
grade8	151.46	8.49	17.8*	
Male	9.17	3.03	3.0*	
Special Education	-62.03	5.32	-11.7*	
ELL	-58.00	5.19	-11.2*	
Low income	-37.81	5.07	-7.5*	
Gifted	89.75	5.95	15.1*	
Spanish	7.71	6.21	1.2	
Japanese	24.23	12.26	2.0*	
Cantonese or Toishanese	37.42	9.65	3.9*	
Other	6.45	8.46	0.8	

Table 28. 2015-16 Smarter Balanced Math Multilevel Linear Regression Results – by Program Language

	Unstandardized Scale Scores	Std. Error	t value	Effect size
Intercept	2499.26	5.21	479.5	
Japanese DLI	18.70	9.37	2.0*	.18
Mandarin DLI	27.09	11.52	2.4*	.26
Spanish DLI	24.04	8.09	3.0*	.23
Asian	6.07	6.85	0.9	
Black	-51.86	11.10	-4.7*	
Hispanic	-38.07	5.93	-6.4*	
Other	-17.82	5.88	-3.0*	
grade4	51.05	4.52	11.3*	
grade5	71.02	5.14	13.8*	
grade6	91.16	7.52	12.1*	
grade7	114.83	7.54	15.2*	
grade8	147.24	9.02	16.3*	
Male	10.51	3.09	3.4*	
Special Education	-60.63	5.50	-11.0*	
ELL	-56.88	5.30	-10.7*	
Low income	-39.93	5.18	-7.7*	
Gifted	88.23	6.24	14.1*	
Spanish	10.39	6.38	1.6	
Japanese	26.47	12.72	2.1*	
Cantonese or Toishanese	40.25	10.12	4.0*	
Other	2.74	8.83	0.3	

Table 29. 2016-17 Smarter Balanced ELA - Hispanic

	Unstandardized Scale Scores	Std. Error	t value	Effect size
Intercept	2457.35	8.57	286.71	
DLI	19.64	9.89	1.99*	.18
grade4	42.90	8.12	5.29*	
grade5	81.82	8.24	9.93*	
grade6	92.45	10.23	9.03*	
grade7	136.81	10.44	13.1*	
grade8	143.18	10.57	13.55*	
Male	-16.40	4.70	-3.49*	
Special Education	-52.14	7.37	-7.07*	
ELL	-83.56	5.89	-14.18*	
Gifted	80.16	17.13	4.68*	
Spanish	-8.97	6.54	-1.37	

Table 30. 2015-16 Smarter Balanced ELA - Hispanic

	Unstandardized Scale Scores	Std. Error	t value	Effect size
Intercept	2466.07	9.68	254.84	
DLI	21.32	11.71	1.82	-
grade4	43.14	8.53	5.06*	
grade5	84.34	8.94	9.43*	
grade6	75.47	11.70	6.45*	
grade7	104.13	11.66	8.93*	
grade8	122.58	12.86	9.53*	
Male	-13.14	4.98	-2.64*	
Special Education	-55.33	7.63	-7.25*	
ELL	-84.61	6.25	-13.55*	
Gifted	95.56	29.34	3.26*	
Spanish	1.52	7.40	0.21	

Table 31. 2016-17 Smarter Balanced Math - Hispanic

	Unstandardized Scale Scores	Std. Error	t value	Effect size
Intercept	2463.15	9.34	263.78	
DLI	30.57	9.54	3.21*	.29
grade4	34.54	9.05	3.82*	
grade5	54.02	9.18	5.89*	
grade6	85.41	10.78	7.92*	
grade7	104.04	11.01	9.45*	
grade8	118.59	11.18	10.61*	
Male	6.78	5.24	1.29	
Special Education	-61.46	8.25	-7.45*	
ELL	-72.85	6.56	-11.11*	
Gifted	90.50	18.91	4.79*	
Spanish	-7.74	7.26	-1.07	

Table 32. 2015-16 Smarter Balanced Math - Hispanic

	Unstandardized Scale Scores	Std. Error	t value	Effect size
Intercept	2460.51	10.31	238.69	
DLI	29.37	11.86	2.48*	.29
grade4	35.46	9.18	3.86*	
grade5	56.66	9.59	5.91*	
grade6	66.20	12.30	5.38*	
grade7	80.95	12.26	6.60*	
grade8	111.39	13.65	8.16*	
Male	4.94	5.37	0.92	
Special Education	-66.20	8.19	-8.08*	
ELL	-66.24	6.77	-9.78*	
Gifted	140.01	31.38	4.46*	
Spanish	7.39	7.94	0.93	

[i] Due to the very small numbers of American Indians and Pacific Islanders participating in DLI, these race/ethnicity categories were combined with Two or More race category for the analysis.

PROGRAM REVIEW

ADVANCED LEARNING/SPECTRUM

PHASE I REPORT: DESCRIPTIVE ANALYSIS

JUNE 2017

SEATTLE PUBLIC SCHOOLS

RESEARCH & EVALUATION DEPARTMENT

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Introduction

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 evaluation is to improve decision-making by deepening understanding of program design, implementation, results/outcomes, and cost/benefits. International Education/Dual-Language Immersion and Spectrum/Advanced Learning were both selected for review for the 2016-17 school year.

The program review for Advanced Learning is also part of the Division of Student Supports' "Advanced Learning Priority Program Review and Communication Plan," a multi-year effort to constructively address concerns raised about the Advanced Learning Department and districtwide services for advanced learners.

The program review for Advanced Learning includes two phases of work:

- Phase 1: Descriptive analysis of "current state" Advanced Learning programming
- Phase 2: Design study of high-growth practices for students above or well above standard

This report details results from Phase 1 and includes the following components:

Report Roadmap

I. Overview of Spectrum and Advanced Learning
II. Descriptive Data for Advanced Learning
III. Current Issues and concerns within Advanced Learning
IV. Overview of Phase 2 (Design Study) Reporting

The Phase 2 report will be delivered in fall 2017.

I. Overview of Spectrum and Advanced Learning

To understand the context of Advanced Learning services in Seattle Public Schools, it is necessary to distinguish between services for Highly Capable students, which are provided for in state law, and Spectrum programs, which are specific to Seattle.

Background: Highly Capable Cohort (HCC)

Prior to 2011, services for Highly Capable Students (the Washington term for "gifted" students) were delivered statewide on a voluntary basis[1], wherein districts applied for state grants to support their identification and programmatic efforts and then filed a year-end report on program status.

When SB 5919 took effect in September 2011, Washington became the first, and only, state in the country to fund appropriate services for gifted students within basic education rather than as a supplement. The bill did this by making "Programs for highly capable students" part of "the instructional program of basic education provided by each school district." Highly Capable Services are now mandatory statewide.[2] Over the years, the names for the program have changed: first called the Individual Progress Program (IPP), the program then became the Accelerated Progress Program (APP), and is now called the Highly Capable program in order to reflect the state's language. The Highly Capable Cohort (HCC) is a self-contained service option available to HC students in grades 1-8.

Background: Spectrum

The Spectrum program was launched by SPS as a second tier program for advanced students who did not meet the eligibility criteria for Highly Capable.[3] Originally called the Horizon Program, it was designed to mimic the format of the services for Highly Capable students. Highly Capable students were (and are) offered the opportunity to attend self-contained classes, which are classes limited to HC students in grades 1-8. Spectrum students were offered a similar opportunity to receive services in a self-contained environment at several regional Spectrum sites and at all middle schools.

Since the 2016-17 school year, the regional Spectrum elementary and K-8 sites have no longer offered full time self-contained classrooms for identified students. At some sites there were too few identified students to populate full classes, while at other sites there were too many eligible students, resulting in waiting lists. Spectrum programs for middle school students, have continued at most sites, but are often designated as honors classes, and are not necessarily restricted to district-identified advanced learner students. While Highly Capable students may require access to specialized classrooms, the district stated goal is to meet the needs of Spectrum-eligible students in general education classes.

For more information on Advanced Learning services and programs, visit the SPS Advanced Learning webpage.

[1] State administrative code requirements (WAC 392-170).

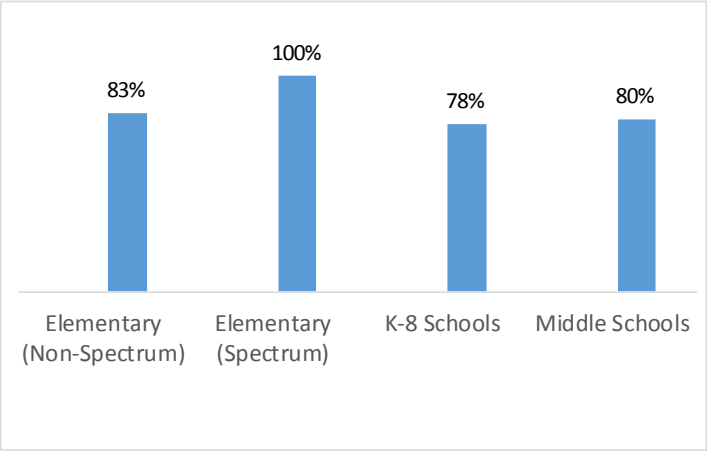
[2] Link to information about the Washington State HCP program

[3] Eligibility criteria are set by each District. Seattle requires for HC cognitive scores at or above the 98th percentile and achievement scores in math and reading at or above the 95th percentile. For Spectrum/Advanced Learners, the criteria are 87th percentile in both cognitive abilities and achievement.

How are Spectrum students grouped in schools?

Data collected from our April 2017 survey of school principals confirmed that currently no elementary or K-8 schools offer self-contained classrooms for Spectrum-identified advanced learners. Six out of ten (60%) of middle schools reported offering self-contained courses for Spectrum-identified advanced learners, in most cases in math or English Language Arts.

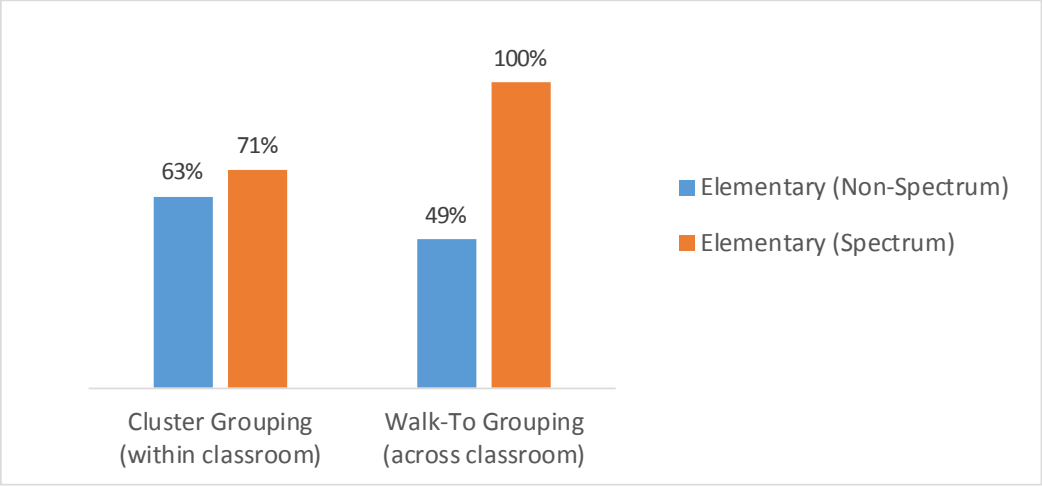
Figure 1. Percent of schools implementing grouping based on achievement



Most principals reported implementing some form of grouping based on current student achievement to support differentiation of instruction. Grouping occurs most commonly for math and English language arts, but in comes cases for science and social studies as well.

In middle schools, principals reported that grouping typically occurs through course assignments, for example by offering honors level courses for higher achieving students. At the elementary level, principals said their schools implement either a flexible clustering approach (e.g., small group instruction), or a "walk-to" model in which students regroup across classrooms. Some elementary schools use a combination of flexible clustering and a walk-to approach. The walk-to approach, which is used mostly for math instruction only, is implemented by all elementary Spectrum schools in at least some grade levels and by 17 out of 35 (49%) of non-Spectrum elementary schools. In cases where a flexible clustering approach is used, principals reported that students receive small group instruction according to their current level, for example, based on reading benchmarks. In such cases, Spectrum-identified students are clustered across classrooms within their grade level. In math, for example, these students might receive enrichment opportunities during small group instruction. The chart below shows the primary grouping approaches used in elementary schools.

Figure 2. Grouping approaches used by elementary schools



II. Descriptive Student Data

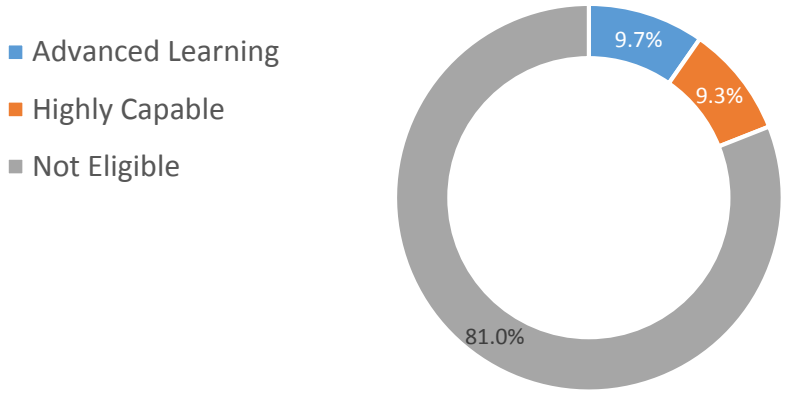
This section provides descriptive data of Advanced Learning/Spectrum enrollment and student performance. Unless otherwise noted, student enrollment data are from 2016-17. Additional tables will be provided in an appendix (forthcoming). Student proficiency and growth data are from 2015-16.

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, for example between Advanced Learning/Spectrum eligibility and student performance.

Student Enrollment

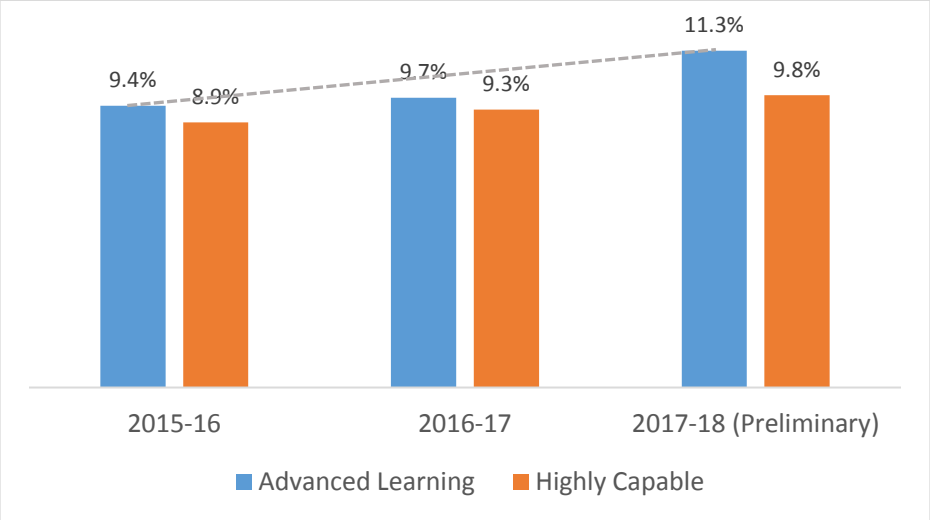
Districtwide, 9.7% of students in 2016-17 were eligible for Advanced Learning and 9.3% for Highly Capable. 81% of students were Not Eligible, meaning they were either not tested or were tested and did not meet the required benchmarks for identification.

Figure 3. 2016-17 Advanced Learning Eligibility, Grades 1-12



There has been an increase in the districtwide percentage of students eligible for Advanced Learning over a three-year period, from 9.4% in 2015-16 to a projected 11.3% for 2017-18.

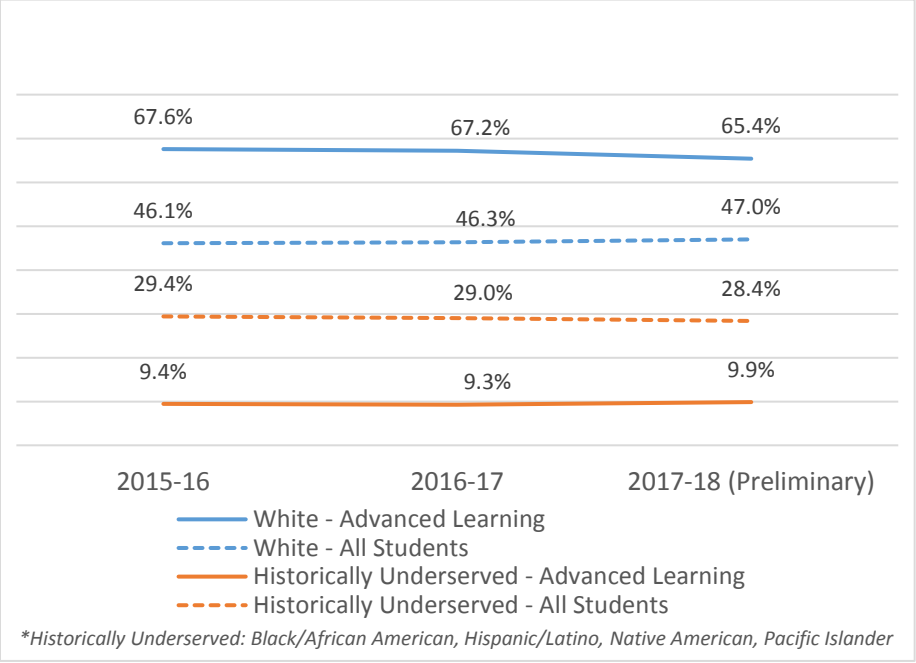
Figure 4. Percent of Advanced Learning and Highly Capable Eligible Students



Note: 2017-18 data are projected from referral data and demographics for incoming students in grades 1-12. Data are preliminary.

Enrollment trends have stayed relatively flat over a three-year period. White students comprise approximately two-thirds of all AL eligible students, but less than half of enrolled students in the district. However, 2017-18 preliminary data suggest a slight narrowing of the gap for overrepresentation in AL for white students.

Figure 5. Proportion of White and Historically Underserved Students (3-Year Trend)*



*Historically Underserved: Black/African American, Hispanic/Latino, Native American, Pacific Islander

Note: The Advanced Learning office has undertaken numerous efforts in 2016-17 to increase access to Advanced Learning for Historically Underserved students. Specific efforts are detailed in Table 3 (page x).

English Language Learner students and students receiving special education services comprise a smaller proportion of Advanced Learning/Spectrum eligible students compared to students overall. There are fewer than 10 current ELL students who are AL eligible.

Figure 6. 2016-17 Composition of Students by ELL

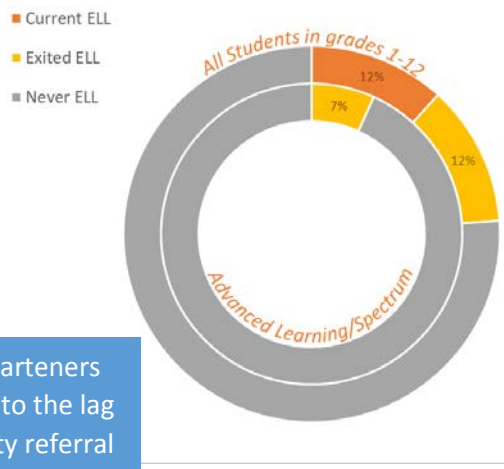
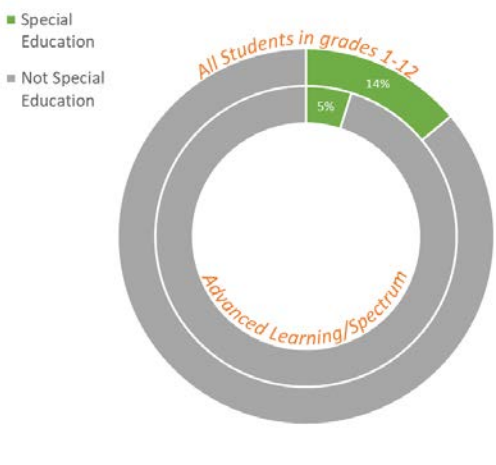


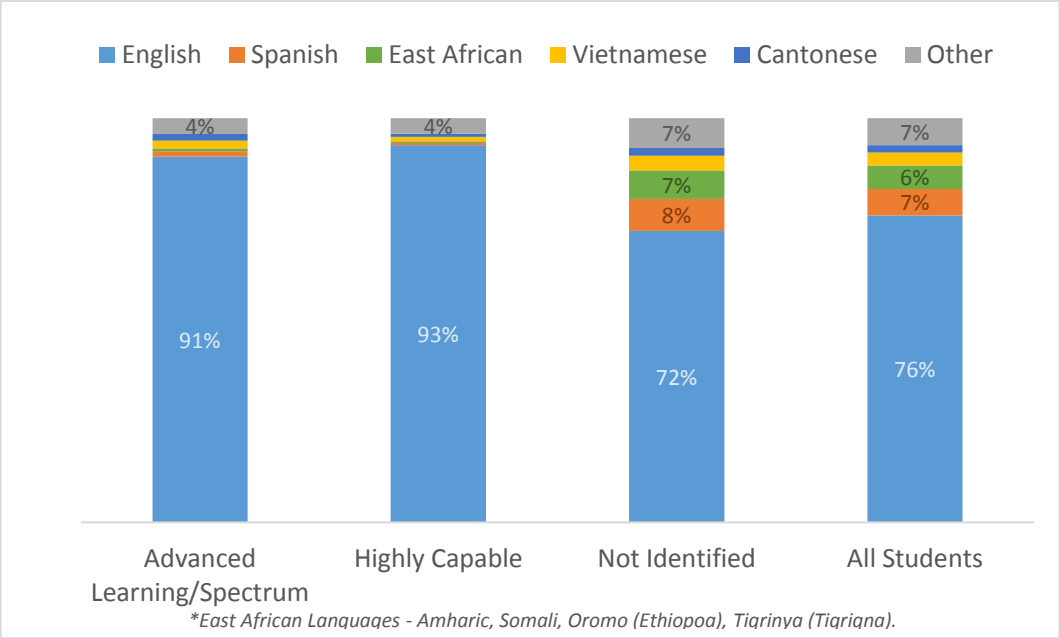
Figure 7. 2016-17 Composition of Students by Special Education



Note: Kindergarteners excluded due to the lag in the eligibility referral process.

Most all (91%) of Advanced Learning eligible students speak English at home, compared to 76% of students overall in the district.

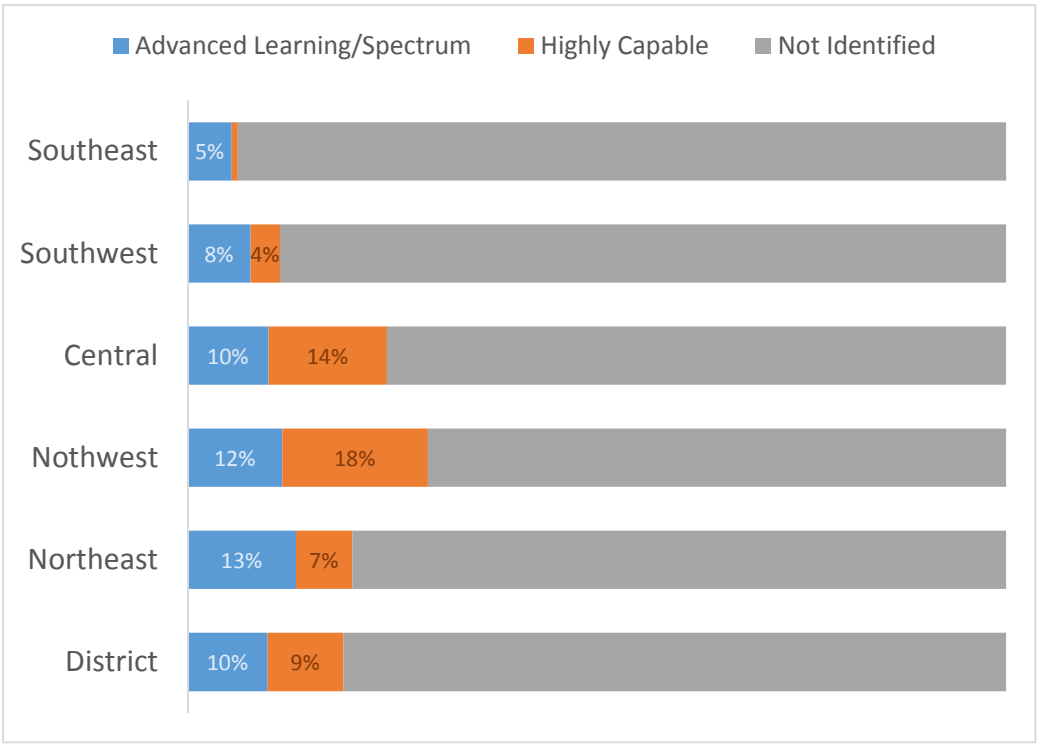
Figure 8. Home languages by Advanced Learning Eligibility



**East African Languages - Amharic, Somali, Oromo (Ethiopoa), Tigrinya (Tigrigna).*

For 2016-17, the Northwest region has the highest concentration of the district's Advanced Learning/Highly Capable students (30%), while the Southeast region has the lowest concentration (6%).

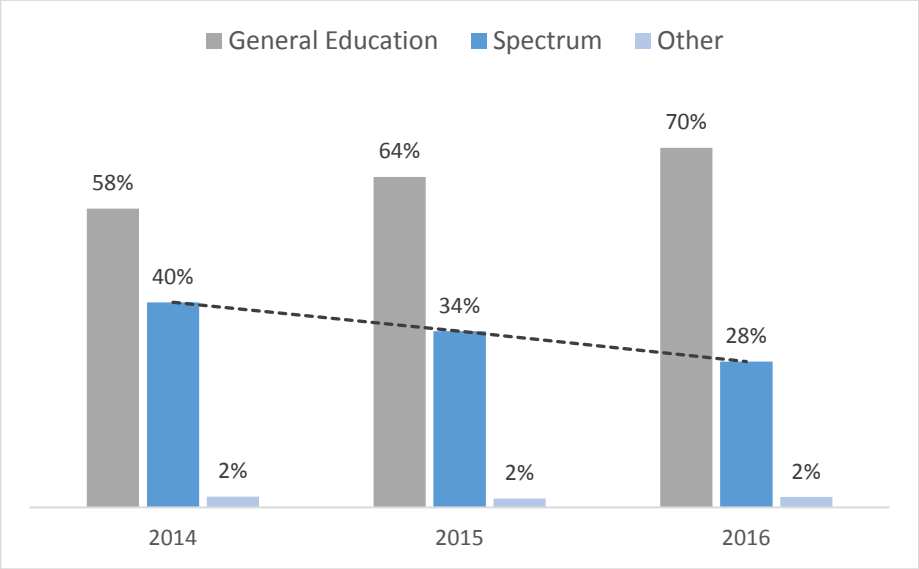
Figure 9. Advanced Learning Eligibility by Region, 2016-17



There has been a steady decline in the percentage of AL eligible students enrolled at a Spectrum designated school. The decline is most noticeable among elementary grades, where the proportion of students dropped by 12% from 40% in 2014 to 28% in 2016.

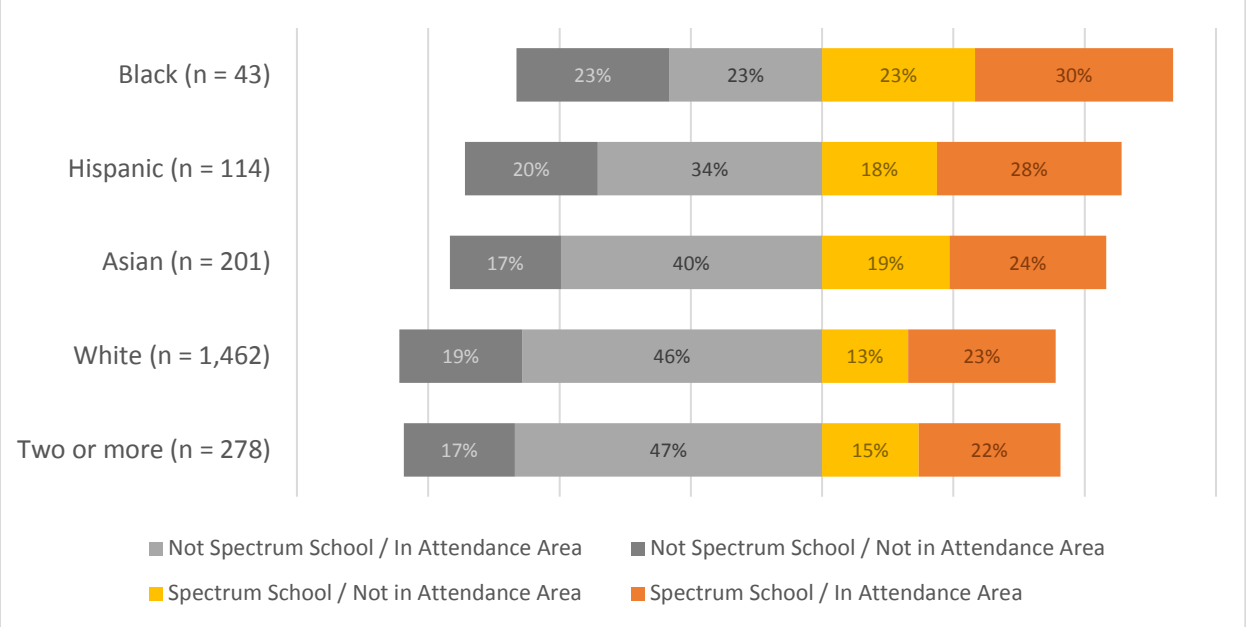
Figure 10. Advanced Learning/Spectrum Eligible Students by Program (Grades 1-5)

Note: As of 2016-17, there were no self-contained Spectrum classrooms in elementary or K-8 schools. However, the Spectrum enrollment designation persists. Parents of AL/Spectrum-eligible students can opt to send their child to a Spectrum designated school if spaces in that school are open.



Students' attendance at their neighborhood school slightly varies by race. 23% of AL eligible black students attend a Spectrum that is not in their attendance area, followed by Asian students (19%) and Hispanic students (18%).

Figure 11. 2015-16 Advanced Learning Eligible by School Type and Attendance Area (Grades 1-5)

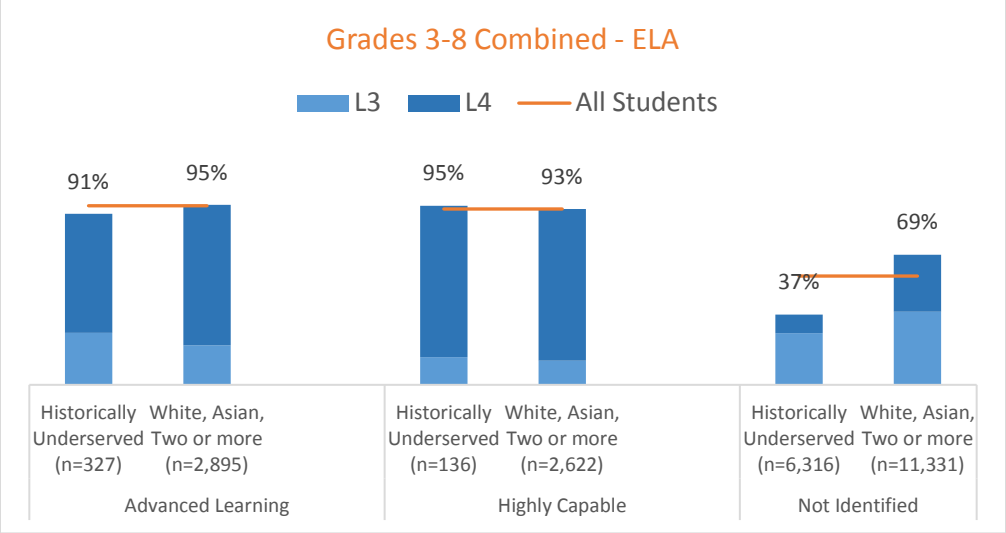


Student Performance

Proficiency rates for students identified for Advanced Learning/Spectrum and HC students are over 90%, and Historically Underserved students perform equally as well as their white, Asian, and multiracial peers. The opportunity gap persists, however, for Historically Underserved students not identified for Advanced Learning.

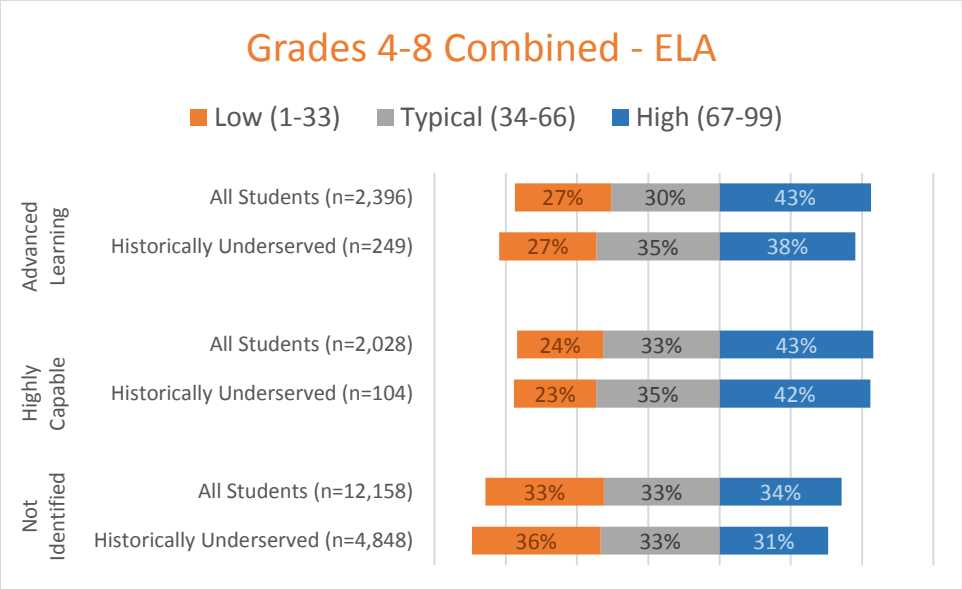
Figure 12. 2015-16 Smarter Balanced Results by Advanced Learning Eligibility

Note: Student performance and growth data are shown for ELA. Proficiency for math shows similar trends and tables are presented in the Appendix (forthcoming).



Student growth is another way to examine student performance. Although differences by race are not evident for HC students, there are some differences for AL eligible students. 43% of all Advanced Learning eligible students with a growth score demonstrate high levels of student growth compared to 38% of Historically Underserved students who are AL eligible.

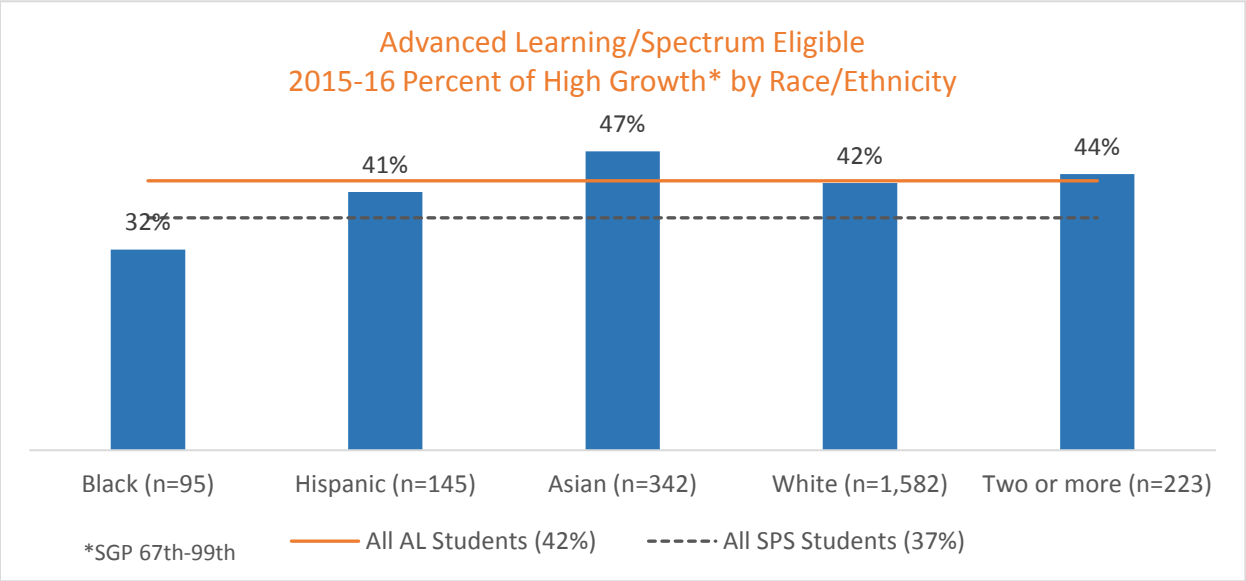
Figure 13. 2015-16 Percent of Students by SGP Growth Level



Note: Student Growth Percentiles (SGPs) are produced by OSPI. A student growth percentile (SGP) describes a student's growth compared to other students with similar prior test scores (their academic peers).

Differences in demonstrated student growth are particularly evident for black students who are Advanced Learning eligible. Although there are far fewer students in this group overall (n=95), only 32% were "high growth" (SGPs of 67 or more), which is far lower than the district average for all AL students (43% high growth). SGPs for Hispanic/Latino students, however, are on pace with their white peers, though still slightly below the district average for all AL students.

Figure 14. Advanced Learning/Spectrum Eligible 2015-16 Percent of High Growth by Race/Ethnicity



III. Current Issues, Concerns, and Recommendations related to Spectrum/Advanced Learning

This section presents thematic data from two sources:

1) **Community and External Feedback**. The first source is notes and information compiled from various meetings of community members, the Board of Directors, district leaders, and other stakeholders regarding their critical feedback and suggestions to improve on Advanced Learning services.

Table 1. Sources of Community and District Feedback on Advanced Learning

Sources of Feedback on Advanced Learning	Stakeholder Viewpoints Represented
	Board of Directors, district leaders
	Families
	Families, teachers, students, community members
	Families, teachers, school leaders, AL staff
	Board of Directors, students, families, teachers, school leaders, district staff

2) **Principal Survey**. The second source is the April 2017 Principal Survey, which was administered to all elementary, middle, and K-8 principals. Response rates on the survey were high (86%) and included responses from all 22 Spectrum designation schools.

Together, these sources provide a comprehensive picture of stakeholder issues and concerns within the Advanced Learning system, with a particular focus on Spectrum. In analyzing the above sources, three key issues emerged.

Key Issues Raised by District Stakeholders

Stakeholders want…

1. High quality, rigorous instruction for students who are not in self-contained environments
2. Solutions to ensure racial equity within Advanced Learning
3. A cohesive plan to guide the future of Advanced Learning programs and supports

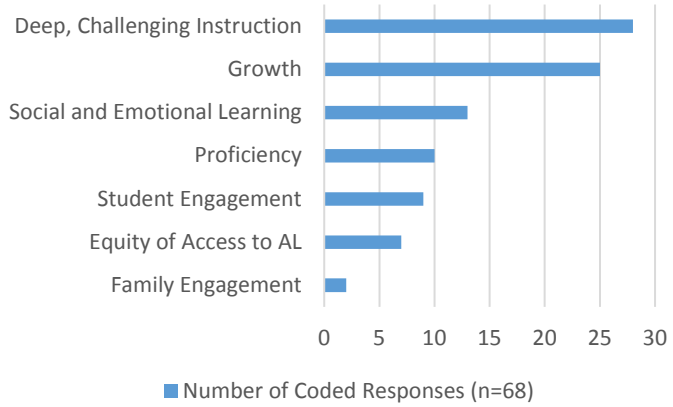
Issue 1: Stakeholders want high quality, rigorous instruction for students who are not in self-contained environments.

> "Teachers need more support for differentiation in the classroom and especially how to challenge spectrum and [Advanced Learning] students that chose to remain in their neighborhood school." - Open-ended response from 2015-16 Family Survey
>
> "I do not understand what will happen to my Spectrum tested kid for middle school. How do I know there will be challenging classes available for his level? It's a big concern for our family."
>
> Open-ended response from 2015-16 Family Survey

Stakeholders, particularly parents and family members, expressed concerns about the availability of challenging instruction and content for students who were Advanced Learning eligible but not in a self-contained HCC program. They cited teachers who did not have adequate supports for differentiation, and schools that were not well prepared to meet their needs of their advanced learners. The previous evaluation report on Advanced Learning (2007) highlighted the difficulty in providing high quality differentiation for Spectrum students. Said the report: *"It is not clear how Spectrum or the [Advanced Learning Opportunities] differentiate instruction for the highly able student who elects not to attend APP [now HCC]." Family members who responded to the 2015-16 Family Survey expressed similar concerns.*

A key goal of the Design Study for Advanced Learning (forthcoming) will be to determine the ways in which schools create differentiated environments that encourage high achieving students to stay challenged and motivated in class. In this descriptive report, however, we asked principals to define success for their Advanced Learning eligible student population (see Figure x). As shown below, the most commonly identified marker of success was students' **access to deeper, more challenging learning opportunities**. Examples included differentiation of instruction, rigorous content materials, and the ability to engage in deeper learning opportunities.

Figure 5. Principals' definitions of "success" for Advanced Learning eligible students



> "Success means that every student is appropriately challenged with access to learning opportunities that meet the leaning needs of the individual student. AL is more about rigor than above grade level."
>
> Principal Survey Write-In Response

The second most common response was **student growth**. While most of these principals named student growth in an aspirational sense (e.g. "we want them to show growth from year to year"), others

provided guidance on how they measure growth in their school, for example naming interim assessments they use or clarifying that growth for them means making at least one year's growth in one year's time. In contrast, 10 principals mentioned that they define success by looking to **proficiency**, which they typically measured through proficiency on standardized, standards-aligned assessments.

Other categories of responses worthy of note include access to content that allows for **engagement** in both **academic and social emotional learning**, **equity of access to advanced learning opportunities** for typically underserved or overlooked students (e.g. ELL students, SPED students, students of color), and the **ability to successfully engage parents** in the advanced learning experience.

Issue 2: Stakeholders want solutions to ensure racial equity within Advanced Learning.

At the October 2016 Board Work Session on Advanced Learning, the Board of Directors asked district leaders to consider race and other disparities during their review of Advanced Learning and Spectrum services. This guidance stems from ongoing concerns from parents and community members regarding racial disproportionality in Advanced Learning services in general and HCC/Spectrum in particular.

"The tremendous racial disproportionality in HCC is a long-standing, well-known problem. There are steps the district can take now to reduce the disparity but to date it has refused to sufficiently prioritize this issue."

"I want more equity across the board so we don't have these small isolated accelerated programs but a chance for all kids to be challenged."

"Access [to HCC] is gated by a racist, classist, educationally flawed test, which is REPREHENSIBLE."

Racial Equity in HCC Team, January 2017
Responses on 2015-16 Family Survey

Recommendations: Community stakeholders – particularly the Racial Equity in HCC Team – and principals alike recommend the following changes to increase access to Advanced Learning programs for underrepresented students:

1. **Make equity-focused changes to testing policies**
2. **Provide better in-school access to Advanced Learning Opportunities**
3. **Encourage more Advanced Learning referrals**

Table 2. Key Recommendations for Ensuring Equitable Access to Advanced Learning

Recommendations	Community	Principals	Principal Quotes
Key Recommendation 1: Make equity-focused changes to testing policies			
	x	x	*"I would love to see that no students are tested until 3rd grade, which would level the playing field. Also that all students are administered the COGAT to help facilitate steps to Advanced Learning."*
	x	x	
	x		
		x	*"Ensure that assessment tools are culturally balanced and culturally-responsive so that students are fairly*
	x	x	
		x	*"A more effective way to serve black, Latino and multi-race students would to be to have effective, integrated ALO programs with support and training for staff in every neighborhood school."."*
	x	x	*"Use teacher recommendation in lieu of testing for ELL students and families wanting to opt in. Test scores alone don't tell us who needs the acceleration and access to the program."*
		x	
		x	*"[We need to be] broadening of the definition of 'giftedness' beyond reading and mathematics."*

Issue 3: Stakeholders want a cohesive plan to guide the future of Advanced Learning programs and supports.

Sources within the community noted the need for a fully articulated long-term vision for Advanced Learning. Any plan for a comprehensive review of Advanced Learning, they said, must address the following:

1. **Lack of definition for the Spectrum designation**
2. **Lack of community engagement during district decision-making**
3. **Poor customer service from the Advanced Learning department**
4. **Unarticulated pathways for HCC students**

"The district does not seem to have a real plan for Spectrum students."

"Parents of students in Spectrum and ALOs feel as if these programs are of second-rate quality and feel that the program is given less attention than APP [now HCC] services."

-Open-ended response from 2015-16 Family Survey
-Evaluation Report: Accelerated Progress Program (2007 UVA study)

"Parents have not been engaged in dialogue about capacity management for HCC."

"Let's talk about the Spectrum Program. Where was the communication about the decision to end that (in every effective way that matters)? Where was the discussion? Chances to ask questions or provide input? Or even enough forewarning to allow families adequate time to make different educational choices for their children."

Open-ended response from 2015-16 Family Survey

"HC student needs in the community there must be an end-to-end HCC path located within West Seattle – spanning elementary, middle and high school."

HCC Pathway in West Seattle Focus Group

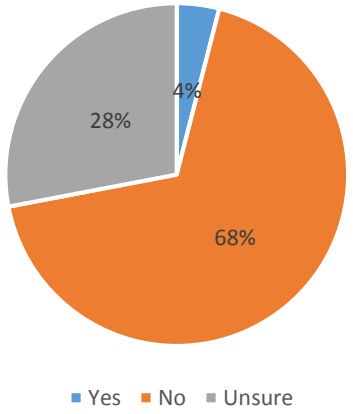
"Dealing with the Advanced Learning office has been slow, frustrating, and confusing."

Open-ended response from 2015-16 Family Survey"

At the Board of Directors Special Meeting on February 8, 2017, Board members and district leadership discussed plans for the future of Advanced Learning services and programs. Recognizing the strengths, weaknesses, opportunities and threats (SWOT) of the current services, district leaders presented the Action Plan for Advanced Learning (of which this program review is a component) and gathered Directors' feedback on necessary improvements to data reporting and program/service delivery. Said Chief of Student Support Services Wyeth Jessee, *The questions now include, with regard to AL, what are we, what do we offer? We need to… address the definition and structure of the program…We need to plan out this year, next year, and for the years ahead."*

Recommendations: In the principal survey, we asked principals to shed light on the future they see for the Spectrum program. When asked whether they thought the district should continue to designate certain schools as "Spectrum schools," over two-thirds of respondents (68%, 46 principals in total) said "no." Only 4% of respondents said "yes", the rest (28%) were "unsure". Principal responses generally did not vary by the level of school (elementary, middle, K-8) or whether the school was a Spectrum designated site. Results did vary by region, however. "No" responses from principals were the most concentrated in the Central region (85%) and the least concentrated in the Southeast (41%) region.

Figure 6. Do you believe that the district should continue to designate schools as Spectrum sites?



In open-ended responses, these principals cited two main concerns:

1. **Maintaining a Spectrum designation perpetuates inequities in the district, benefiting families who are privileged in terms of both race and socioeconomic status.**

"I don't see any reason why students who qualify for Spectrum can't be successfully served in their home school. We work hard to retain our Spectrum students at our school by finding ways to provide instruction at their level."

"Strong, aligned academic programs – ones that differentiate instruction and flexibly group students, are standards based and guided by data to inform instruction, use common formative assessments and intervention/extension models such as PLCs and MTSS – eliminate the need for Spectrum sites or Spectrum student designation for student success."

"When the district designates Spectrum sites, it is effectively declaring that non-Spectrum sites are not expected to provide rigorous instruction. This has a deleterious effect on parent confidence in their neighborhood schools."."

Open-Ended Responses from Principal Survey

2. **All schools should be able to accommodate Advanced Learners – special designation for specific "Spectrum" schools is confusing for parents and is not aligned to the district's efforts to establish Multi-Tiered Systems of Supports (MTSS).**

> "Spectrum serves no purpose. Its function segregates our students in the service of what? Our goal is to provide outstanding instruction to all students."
>
> "Our advanced learning system is already so inequitable. Spectrum is not required by state law and we should not continue to be a system that allows white people to access more privilege."
>
> Open-Ended Responses from Principal Survey

Another 28% of respondents (19 principals) who responded said they were unsure. In open-ended responses, ten principals said, for example, that it would be difficult to do away with a program that parents have come to expect for students, and that more resources and supports would be necessary if the designation were to be eliminated. Finally, 4% of respondents (three principals) said that the Spectrum program should be continued. These principals noted that, for some students and families, the program is working well and that these students might be less well served in a non-Spectrum setting.

Summary and District Responses

Community members, the Board of Directors, and school principals have all raised important issues and concerns regarding the current state of Advanced Learning programs and services, including but not limited to the Spectrum designations of schools. Importantly, these stakeholders have not only raised the concerns but have provided forward-looking solutions to identified problems.

Importantly, the district has already taken action on several of the recommendations mentioned by community stakeholders and principals. First, the Board approved Action Plan for Advanced Learning is, in and of itself, a response to the call in Issue 3 above for a "cohesive plan for Advanced Learning." Additionally, the Advanced Learning Office is currently implementing an array of simultaneous approaches to increase access to Advanced Learning programs. The focus of these efforts is to enhance equitable access to underrepresented populations, most especially low income, ELL, and students of color.

Table 3. Strategies employed in 2016-17 to increase access to Advanced Learning programs

Identification Strategies	Professional Development and Outreach Strategies
• Each and every student was able to test for eligibility; there are no pre-qualifications • Scrutinized referrals from ELL students for characteristics such as rapid language acquisition • Expanded referral window • 2nd grade targeted universal testing at 32 Title I elementary schools; invitations for continued screening extended to 67 parents • Follow up testing completed at Title I students' school sites during the school day • "Special consideration" in the eligibility process as noted in our Superintendent Procedures and practiced by the MSC (Multidisciplinary Selection Committee) • Current teachers may recommend students for testing, triggering an invitation to parents to refer. Email and phone follow-up if no response to invitation.	• Differentiation workshops at the central office and satellite sites • Collaboration with the Rainier Scholars Program (contacted applicants to generate referrals for previously unidentified high potential students of color) • Site visits and presentations to Title I schools regarding identification and referral of students for AL services • Website information and videos and disseminated to local and social media outlets • Eligibility forms and first day packet announcement (translations in nine languages) • AL representation on the Equity and Race Advisory Committee (ERAC) • AL representation on the Southeast Seattle Education Consortium (SESEC)

IV. Overview of Phase 2 Reporting

The district is considering how best to meet the academic needs of Advanced Learners (those not in self-contained HCC classes) in all schools within an MTSS framework. The next phase of reporting will aim to shed light on the conditions, factors and educational strategies that will serve these students. Phase 2 Reporting will have two components: a Literature Review of best practices for students who are above or well above standard; and a Design Study based on in-depth site visits at seven schools.

Literature Review

Seattle Public Schools will partner with Dr. Nancy Hertzog and Dr. Sakhavat Mammadov at the University of Washington to conduct a literature review of research-based best practices for students who are above or well above standard. The review will include the topics of instructional differentiation, professional development for teachers and staff, and schoolwide structures to support and serve the needs of this group of students.

Design Study

A key task in the Advanced Learning Priority Program Review and Communication Plan is to research and determine the learning environments, instructional and curricular practices and settings in which the advanced learner is:

- Thriving socially and emotionally;
- Growing academically, and;

- Experiencing an engaging, positive and challenging learning experience within the general education setting.

The Design Study will detail findings from seven school visits detailing approaches to instruction for students who are above or well above standard, but who are not in a self-contained HCC program. School visits will include school leader interviews, teacher classroom walk-throughs, teacher interviews, and student focus groups. Both the Literature Review and the Design Study reports will be delivered to the Board in the fall 2017.

ROBINSON CENTER FOR YOUNG SCHOLARS
UNIVERSITY of WASHINGTON

Literature Review – The Million Dollar Question!

What are identified research-based instructional best practices (pedagogical and curricular methods, differentiation techniques, ability grouping practices, personalized learning solutions) to ensure advanced learners are challenged, engaged in learning, and achieving strong academic growth?

Sakhavat Mammodov, Ph.D.

Nancy B. Hertzog, Ph.D.

University of Washington

The Halbert and Nancy Robinson Center for Young Scholars

October, 2017

Introduction

In their book, "*Best Practices, in Gifted Education: An Evidence-based Guide*, Robinson, Shore, and Enersen (2007), described 29 practices supported by systematic inquiry and research, organized by home, classroom, and school, that "work" with talented youth. In the text, the authors acknowledged that there is variety in the terms used in the research that supports these practices- terms such as gifted, talented, high ability, and promising learners – all of which the authors used interchangeably because in practice, the terminology does not define the learner. Every learner is unique and no group of students is ever homogenous. In this literature review, like Robinson et al., we cannot make distinctions between highly capable or advanced learners. Gifted students are defined, sorted, and labeled locally, confounding research that purports to distinguish gifted from non-gifted students, or bright from gifted students, or in the state of Washington, highly capable from advanced learners. According to Peters (2016), no matter what theoretical foundation or conceptual framework one uses to define giftedness, "the end goal of K-12 gifted education is to provide students in need with some service or intervention that they would not otherwise receive" (Peters, 2016, p. 127).

It is imperative that we conduct this literature review within the context of the Advanced Learning Program in Seattle Public Schools. Although Seattle makes a distinction between highly capable and advanced learners, the literature that we have researched does not make that distinction. The Seattle Public Schools has a complex system for serving its academically advanced students. Students in grades K-8 are labeled highly capable if they are in the 98th-99th percentile on one CogAT Form 7 on 2 of 7, and in the 95th percentile or above in both reading and mathematics on district administered achievement tests. Students in grades from 9 -12 are identified highly capable on the basis of portfolio assessments, national normed test results (e.g.,

PSAT, SAT, ACT) and district administered math and readings achievement tests (95th percentile or above). Students who are labeled advanced learners meet these criteria: 87th percentile on one CogAT Form 7 on 2 of 7 (grades 3-7) or CogAT Screening Form (K-2), and 87th percentile or above on district administered achievement tests in mathematics and readings. Students are not identified for the Advanced Learner Program after 8th grade. In addition, parent and teacher rating scales are considered in the evaluation of student eligibility for both Highly Capable and Advanced Learner/Spectrum programs. Advanced Learner/Spectrum provides enriched and/or accelerated curriculum in reading or mathematics, and flexible grouping opportunities for students who are district identified at the elementary and middle school levels.

Identification based on composite CogAT and achievement test scores cannot accurately determine two groups of students that are each homogenous and different from one another. Therefore, the scope of this literature review cannot convey how instructional practices should be implemented for advanced learners any differently than for highly capable students. According to VanTassel-Baska and Wood (2010),

> As gifted education becomes more concerned about appropriate programs and services that can bolster achievement in schools for both gifted and other populations and less concerned about precise identification of who is gifted, the emphasis turns then to what works—what programs and services are likely to produce the greatest learning for students? (p. 345).

The Washington Administrative Code WAC 392-170-036 defines students who need enriched or accelerated programming as those students with the following characteristics:

- Capacity to learn with unusual depth of understanding, to retain what has been learned, and to transfer learning to new situations.

- Capacity and willingness to deal with increasing levels of abstraction and complexity earlier than their chronological peers.
- Creative ability to make unusual connections among ideas and concepts.
- Ability to learn quickly in their area(s) of intellectual strength.
- Capacity for intense concentration and/or focus.

Notice that these characteristics infer that students need increasing levels of abstraction and complexity, opportunities to make unusual connections among ideas and concepts, opportunities to go faster or at their own pace, and opportunities for students to engage in projects with intensity.

Methodology

To answer this question: "What are identified research-based instructional best practices (pedagogical and curricular methods, differentiation techniques, ability grouping practices, personalized learning solutions) to ensure advanced learners are challenged, engaged in learning, and achieving strong academic growth?", we conducted a series of searches in the educational and social sciences databases. A total of six databases were searched for publications, with key articles obtained primarily from the Education Resources Information Center (ERIC), Education Source, EBSCOhost, and PsycInfo. We limited our search to the last 15 years of publications in peer-reviewed journals, books, and book chapters. It was determined that the approaches and practices had to be contemporary to be judged relevant and effective. Several topics (ability grouping, acceleration, differentiation, instructional and curricular approaches for teaching the gifted, personalized learning solutions) were of particular interest for this review, as they have been widely studied and discussed in the field of gifted education and were directly related to the research question. Our initial search included the term "gifted" or "high-ability" along with one

of the following keywords: ability grouping, acceleration, differentiation, inquiry-based learning, problem-based learning, curriculum, and instructional practices. Studies were eligible for consideration in this review if: (a) the focus of the study was gifted students; and (b) there was at least one keyword concerning research-based instructional practices. Based on this literature – and critiques of them, we further reviewed special forms of service delivery models, social and emotional considerations, and self-concept. Because these searches yielded hundreds of articles, we retained the publications that were most relevant to this literature review. Given more time, we would include all articles that were considered eligible according to our inclusion criteria (see Appendix).

How Best Do We Meet the Needs of Academically Advanced Learners?

In this section, we describe various administrative structures, curricular and instructional practices, and we pay particular attention to findings and practical ideas that might be helpful in decisions regarding meeting the academic, social, and emotional needs of advanced learners. Historically, identified highly capable learners have been served in many different ways, including within the classroom, outside the classroom in special part-time or full-time classes, or with unique arrangements inside or outside the school. In the literature, many of these options are referred to as service delivery models.

According to the Washington Administrative Codes (WACs) 392-170-078 and 392-170-080, the State of Washington provides four different administrative structures for creating specialized services for identified highly capable students:

- General Education Classroom – Based Services/Programs,
- Acceleration Services/Programs,
- Unique Highly Capable Program (HCP) Services, and

- Non-Traditional Services/Programs.

In Washington, students may be served within the general education classroom, or in special services that are designed just for them. They may also be served through any form of acceleration, or programs that they label as "non-traditional" which include mentorships, partnership with schools, agencies, or universities outside of their home school district. Within each of these administrative structures, there are many possibilities for program and instructional designs. A synthesis on research of the needs of identified highly capable students by Rogers (2007) noted these important instructional considerations that infer specific programming features;

- The need for daily challenge,
- Opportunities for students to work independently in their area of passion and talent,
- Acceleration to match their level of content mastery, and
- The opportunity to socialize with peers who also are advanced learners.

These instructional considerations may also take place within or outside of the student's classroom.

Service Delivery Models

The most frequently referenced service delivery models in the literature are integrated classroom support, cluster grouping, pull-out programs, special classes for advanced learners, and special schools. *Integrated classroom support*, also known as within-class services, refers to differentiated instruction and services by a regular classroom teacher, with or without the guidance and assistance of a highly capable specialist. *Cluster grouping* is a within-class grouping model by which advanced students receive services grouped with other advanced students who have similar interests, needs, and abilities. *Pull-out programs* refer to part-time

services implemented in a separate classroom by a specialist trained in gifted education. The term *special classes* refers to a variety of service options for advanced learners, including pull-out groups, or outside of school enrichment programs such as Saturday and summer programs. S*pecial schools* are educational and instructional programs designed specifically to meet the learning needs of advanced students. Of these models, only integrated classroom support has a specific goal of improving access to quality resources for students not identified as gifted. The other models, however, have been used as a form of grouping within and outside the general classroom. Although there is a substantial amount of research focusing on academic benefits of ability grouping, practitioners should approach these studies cautiously. The research on ability grouping is flawed.

Ability Grouping

Ability grouping has been used for different meanings in the gifted education context. Some researchers equated it to tracking (e.g., Herrmann, Schmidt, Kessels, & Preckel, 2016); whereas, some others referred to ability grouping as "flexible ability grouping" (Neihart, 2007; Tieso, 2003). Neihart (2007) defined ability grouping as "any arrangement that attempts to place students with similar levels of ability in instructional groups" (p.333). There are various forms of ability grouping, each of which is associated with different outcomes for advanced learners. Steenbergen-Hu, Makel, and Olszewski-Kubilius (2016), on the basis of their comprehensive review of literature, categorized ability grouping into four main types: between-class ability grouping, within-class ability grouping, cross-grade subject grouping, and special grouping for the gifted. In between-class ability grouping, students of the same grade are assigned into high, average, or low classes based on their prior achievement or ability levels. Again, one should be cautious of studies that identifies high, average, and low – as not all students are separated into

those groups with similar data. Some may use cognitive test scores, others may use achievement test scores, and there is generally no information specifically related to the regional context of the grouping. (Every district has its own grouping ability cut-off scores). In within-class ability grouping, teachers assign students within a class into several small groups based on their achievements, interests, skills, or various other factors. Cluster grouping is a type of within-class ability grouping, because it places "several high achieving, high ability, or gifted students in a general classroom with other students and a teacher who has received training or has a desire to differentiate curriculum and instruction for these 'target' students" (Gentry & MacDougall, 2009, p.3). In cross-grade subject grouping, students of different grade levels are grouped together to learn a particular subject. Finally, special grouping for the gifted refers to educational and instructional programs designed specifically for advanced students.

A great deal of research has examined the academic benefits of ability grouping. A recent second-order meta-analysis that synthesized approximately 100 years of research on the effects of ability grouping on students' academic achievement has documented positive outcomes from within-class grouping, cross-grade subject grouping, and special grouping for the gifted, but no positive effect of between-class grouping (Steenbergen-Hu et al., 2016). Note that these findings did not vary for high-, medium-, and low-ability students.

Based on the literature, it is difficult to decide whether, when, and how to use these grouping strategies with advanced learners. Firstly, ability grouping studies in the gifted literature used the samples of students identified as highly capable/gifted which typically represents the top 3-7 percent of a student body based on some ability or achievement test scores. The findings from these studies may not generalize to other populations. Secondly, each study had its unique context and differed from others in so many ways such as the duration of ability

grouping, the subject area (e.g., math, reading, science, social studies), the quality of pedagogy and curriculum, comparison condition, measures used as an outcome variable, and criteria for identification of students as gifted/highly capable. Thirdly, seeking to help us understand the real benefits of any educational practice, we tend to use the results of the research reviews such as best-evidence syntheses and meta-analyses. Although such studies usually specify their inclusion and exclusion criteria and literature search strategies, they often consider all included studies as equally valid. When we carefully look at these studies, we see that most of them suffer from serious methodological pitfalls. For example, all first-order meta-analyses on the impact of ability grouping on students' achievement since 1980s had serious methodological problems. Of 13 ability grouping meta-analyses that were included in Steenbergen-Hu et al.'s study, seven were rated as having low methodological quality with major weaknesses, six had moderate methodological quality, and no meta-analysis had high quality. Although Steenbergen-Hu et al. used the most feasible approach in their analysis, these profound limitations suggest that educators should be cautious if they are to make informed decisions based on these research reviews. Additionally, ability grouping is a single instructional strategy for highly capable students who typically participate in a range of service delivery options simultaneously. Plucker et al. (2004) properly questioned the sagacity of drawing conclusions from the findings on the outcomes of this single strategy. **It is the quality of instruction and instructional resources that impacts students' academic growth the most** (Neihart & Yeo, 2018).

Although the academic benefits of ability grouping for advanced learners are well-documented in the literature (despite abovementioned limitations), it still remains as one of the most controversial educational practice due to a number of raised objections about its detrimental psychosocial outcomes and lowered self-concept (Belfi, Goos, De Fraine, & Van Damme, 2012;

Seaton, Marsh, & Craven, 2009). Research has shown that academic self-concept (i.e., one's perceptions of his/her own abilities and competences) decreases when students engage in social comparisons with a highly capable reference group (i.e., a negative contrast effect; Marsh & Hau, 2003; Herrmann et al., 2016). This so-called Big-Fish-Little-Pond Effect (BFLPE; Marsh, 1987) explains why advanced students who are placed in class for their ability socially compare themselves with peers and perceive their own ability to be lower. Such comparison may increase anxiety in advanced students (Matthews, Lin, Zeidner, & Roberts, 2018). Some studies indicated that a highly able reference group can also make students feel positive about their abilities when students associate themselves with positive qualities of this group and have increased motivation due to perceived similarities – a so-called assimilation effect (Mussweiler, 2003). Seaton et al. (2008) argued that the BFLPE constitutes the net effect of these two opposite processes: negative contrast effects and positive assimilation effects. In addition, the psychosocial outcomes of ability grouping vary across various subgroups of highly capable students. Its effects on twice exceptional, minority, and disadvantaged children have not been examined systematically (Neihart & Yeo, 2018). Neihart (2007) summarized research on benefits of grouping and cited small positive outcomes for some advanced minority students. Neihart also argued that ability grouping should not be the intervention of choice for highly capable or advanced students on the autism spectrum or with attention-deficit/hyperactivity disorder. Thus, educators and counselors will need to consider the characteristics of different subgroups of advanced students and the availability of alternative means of arrangements when making decisions about placement and instructional strategies for these learners.

Advanced students often gain access to "like-minded peers" through ability grouping, acceleration, and advanced course enrollment such as international baccalaureate, thus enhancing

their academic and socioemotional development (Foust, Hertberg-Davis, & Callahan, 2009; Park, Caine, & Wimmer, 2014). Barber and Wasson (2015) found that students enrolled in advanced coursework had a larger network of friends and more engaged friends than equally able students who were not taking advanced coursework. In addition, being in an advanced learning environment with like-minded peers provides students with opportunities for exploring and developing their academic strengths and interests (Bate, Clark, & Riley, 2012). These results, however, must be interpreted cautiously.

Like-mindedness is often a misunderstood phrase that infers that by being labeled gifted, or highly capable, students are all thus, like-minded. Parents often advocate for their children to be with like-minded peers. On the contrary, like-minded in the literature, has been defined in terms of shared perspectives and viewpoints (Levine & Cox, 2005), group identity and connectedness (Modani et al., 2014), and common goals and motivations (Bicknell, 2014). There is nowhere in the literature where like-mindedness means achievement, or cognitive ability. Classroom climates can be created with students of all readiness levels working on projects that give students opportunities to share viewpoints and perspectives, work on common goals, and feel a group identity. It is a misnomer to think that gifted students have to be with other gifted students to feel connected. Simply a shared interest may give students an affiliation. Finding like-minded peers should not be and is not only found in classes where students who are labeled gifted are joined together.

Academic Acceleration

Academic acceleration is both a curriculum model and an intervention model (Assouline, Colangelo, VanTassel-Baska, & Lupkowski-Shoplik, 2015). There are at least 20 types of acceleration that fall into two general categories of instructional management: (a) *subject-based*

acceleration, which exposes students to advanced content and skills before their expected grade level, and (b) *grade-based acceleration*, which comprises options for students to skip the grades in the K-12 school system (Rogers, 2015). The most important connection between acceleration and highly capable or advanced learners is the teacher or highly capable specialist who is most likely to be aware of the accelerative opportunities within the context of advanced learning opportunities (Assouline & Lupkowski-Shoplik, 2018).

The 2015 publication of *A Nation Empowered*: *Evidence Trumps the Excuses Holding Back America's Brightest Students*, published by the Belin-Blank Center, provides strong evidence for the effectiveness of acceleration in multiple educational settings. Research has shown that academic acceleration that comprises the appropriate educational dose for an individual student is educationally appropriate and necessary (Colangelo & Davis, 2003; Lubinski, 2004). Wai's Study of Mathematically Precocious Youth (SMPY; 2015) reported that advanced students benefit from accelerative learning opportunities and usually have few regrets, if any, about their acceleration. A literature review investigating the impact of acceleration on social and emotional factors indicated positive benefits on students' affective lives (Cross, Andersen, & Mammadov, 2015). However, the impacts of acceleration on the affective realm are not as robust as the impacts on the cognitive realm. Although the research on the outcomes of acceleration is overwhelmingly positive, decisions about individual students must be based on more than research, which engenders caution (Rogers, 2015).

According to Assouline and Lupkowski-Shoplik (2018), educators will need to consider grade-level testing and above-level testing for the identification of students for challenging curriculum and/or subject acceleration. In addition, pre-assessing individual students on a specific topic or units helps teachers to identify which students have already mastered the

required material. Appropriate assessment practices are critical for informing instructional decisions about the differentiation process.

Pedagogy of Gifted Education

The pedagogy of gifted education focuses on teaching strategies and practices that optimize challenge for all students, including the most advanced learners. Common elements of instruction that optimize challenge include inquiry-based approaches to learning, enhancing student autonomy in the classroom, and designing opportunities for students to develop their creative and critical thinking. Although these strategies are also effective teaching practices for all students, they serve as a basis for teachers to maximize opportunities for students to pursue their own interests, and respond to learning activities at their own readiness levels.

The notion that there is a distinct way of developing curriculum that only benefits identified gifted children has proven to be false. Research indicates that curriculum developed for identified gifted students has also benefited those who have not been identified as gifted. Through the Javits program at the Center for Gifted Education at the College of William and Mary, VanTassel-Baska and colleagues used the Integrated Curriculum Model (ICM) to develop curricula in the core subject areas of language arts, social studies, science, and mathematics. ICM is comprised of three interrelated dimensions:

1. Emphasizing advanced content knowledge that frames disciplines of study.
2. Providing higher-order thinking and processing.
3. Organizing learning experiences around major issues, themes, and ideas that define understanding of a discipline and provide connections across disciplines.

Experimental and quasi-experimental research studies have been conducted to discern the learning gains of gifted students, promising students from low-income and minority

backgrounds, and typical students. The findings from language arts effectiveness studies suggested that learning outcomes were aligned with the intent of the National Council of Teachers of English and the International Reading Association standards that advocate for substantive content, high-level thinking processes, and mastery of meaningful language art skills (VanTassel-Baska, Zuo, Avery, & Little, 2002). In their three-year longitudinal study of using language arts curriculum in Title 1 schools and inclusive schools with all learners, VanTassel-Baska and Bracken (2008) found that all groups within the experiment (i.e., gifted, promising students from low-income and minority backgrounds, and typical students) showed significant and educationally important gains, suggesting that the curriculum is effective with a broad range of learners.

Research on the efficacy of the William and Mary science curriculum yielded significant improvement in students' integrated scientific process skills. For example, Feng, VanTassel-Baska, Queck, Bai, and O'Neill (2005) examined the effects of the science curriculum by using the problem-based learning units across cohort groups in the same school district through a six-year longitudinal study. Gifted students in a pull-out program who had been exposed to three problem-based learning units at grades 3, 4, and 5 had significant gains each time they were taught a problem-based unit. A quasi-experimental research for social studies curriculum with 1200 gifted and typical students in regular classroom settings showed significant gains in conceptual reasoning, critical thinking, and content learning (Little, Feng, VanTassel-Baska, Rogers, & Avery, 2007). In summary, the research evidence for the effectiveness of the William and Mary curriculum developed on the ICM showed benefits for those students who were identified as gifted, as well as those who were not identified as gifted.

Inquiry-Based Learning

Pedagogy of gifted education includes inquiry-based learning and problem solving. A great deal of research supports inquiry learning pedagogies for all students (Hertzog, 2017). First, questioning strategies provide content-relevant pedagogy to enhance deep learning. Second, deliberate use of inquiry based approaches helps students scaffold their learning to promote automaticity. Third, different modes of inquiry elevate thinking and problem solving, which enables students to transfer their learning to new situations with confidence in their ability (VanTassel-Baska, 2012). Research has shown that higher level questioning strategies are effective with all students, but specifically crucial for promoting learning in advanced learners (VanTassel-Baska & Brown, 2007).

Problem-based learning is one way of incorporating inquiry into the curriculum. "Problem-based learning approaches are a close cousin of project-based learning. Lessons typically involve a specific type of activity focused on using reasoning and resources to solve a problem," (Barron & Darling-Hammond, 2008, p. 5). The primary goal of problem-based learning is to enhance learning by requiring learners to solve problems.

Authentic mathematical problem-solving tasks have the highest level of challenge for all students (Lesh & Zawojewski, 2007). Authentic problem solving not only provides challenge for advanced learners, it also helps students to understand the real world uses of different subjects. Research has shown that practicing as professionals is an important means of motivating students in a given subject area (Mammadov & Topcu, 2014). Teaching both general processes that are used in conducting research and solving problems specific to different disciplines are a desirable aspect of curriculum for advanced learners (Tomlinson et al., 2002).

Enhancing Student Autonomy

Autonomy is one of the three basic psychological needs that individuals possess (the other two needs are competence and relatedness; Deci & Ryan, 2000). Students have a need for autonomy in learning settings because it is an important precursor of academic motivation. The quality of a student's motivation explains part of why he/she prefers optimal challenges and generates creative products. When a student is intrinsically motivated to carry out some task, creative outcomes are most likely to occur. To be intrinsically motivated, and therefore thrive in educational settings, students should have choices in their learning.

There are several guidelines that are critical in appealing to students' intrinsic interests. Given that intrinsic motivation arises from the needs of autonomy, students will benefit when teachers support their autonomy (Reeve, Ryan, Deci, & Jang, 2008). Teachers should be trained to use autonomy-supportive instructional behaviors in their classes. Reeve et al. (2008) listed several empirically validated supportive behaviors for teachers:

- spending time listening to students' voice during instruction,
- asking what the students need,
- allowing time for students to work independently and in their own way,
- providing rationales to explain why a particular course of action, way of thinking, or way of feeling might be useful,
- using statements to communicate positive feedback about the students' improvement or mastery,
- being responsive to student-generated questions, comments, recommendations, and suggestions, and
- using empathic statements to acknowledge the students' perspectives or experiences.

Differentiation

The goal of any educational program, including a highly capable program is to provide the optimal environment for learning and growing. Because advanced learners are diverse with a range of needs, interests, backgrounds, and readiness levels, no single "highly capable/advanced learner curriculum" can be identified as best for all students and for all situations. Beyond providing challenges that incorporate greater depth and complexity, adjusted pace, and greater autonomy, schools should consider curricular and instructional modifications geared toward individual student needs.

The National Association for Gifted Children (NAGC, n.d.) defined differentiation as "modifying curriculum and instruction according to content, pacing, and/or product to meet unique student needs in the classroom" (para. 21). According to Tomlinson (1999), it is doing whatever it takes to ensure that each child grows as much as he/she possibly can each day, each week, and throughout the year. Teaching an entire class as a homogenous group misses the opportunity for many students to make continuous growth (Inman & Roberts, 2018). Research has shown that even teachers who voice the importance of differentiation do not differentiate their instruction to meet individual student needs. For example, Westberg and Daoust (2003) conducted a follow-up study on classroom practices and found that, 10 years after the first study (Archambault et al., 1993), teachers who realized the importance of differentiation were still using one lesson plan to teach. One of the primary factors affecting the lack of differentiation in classrooms is the lack of teacher training. According to the recent survey study conducted by The New Teaching Center (2015) across 20 states, more than the half of teacher population indicated that they need training on differentiation in order to teach their children more effectively. Furthermore, when teachers do have training, they tend to focus on differentiating for

exceptional students on the other end of the spectrum, not advanced students (Inman & Roberts, 2018).

There are a variety of strategies and methods that can be used to differentiate the curriculum and instruction for advanced learners. Differentiation strategies include *content acceleration, curriculum compacting, flexible pacing,* and *more advanced or complex abstractions and materials*. Content acceleration should be a part of teachers' planning principles. Curriculum compacting for advanced learners is a straightforward procedure in which teachers determine what students already know and what they still need to learn, and replace the content with more advanced and challenging materials according to students' interests and needs (Manning, Stanford, & Reeves, 2010). Research has reported several benefits of curriculum compacting in meeting the needs of advanced students such as elimination of classroom material that students already mastered, implementation of appropriate instructional strategies for students to demonstrate mastery, and increased achievement in reading, math computation, and social studies (Riley, 2005). The optimal match between the challenge level of the task and the level of student's skills is critical in appealing to advanced learners' intrinsic interests. Just as students differ in their readiness to learn, they differ in their interests and general motivation. Teachers should consider these differences when differentiating curriculum and instruction (Tomlinson et al., 2003). Students should be allowed and encouraged to select their own topics for projects and share their ideas with parents and teachers about what could make them more engaged in learning (Wolfe, 2001). For example, when students chose the reading materials of their interest, they demonstrated substantive engagement and experienced increased reading performance (Carbonaro & Gamoran, 2002).

Other Personalized Learning Solutions for Advanced Learners

According to the U.S. Department of Education (2016), personalized learning refers to "instruction in which the pace of learning and the instructional approach are optimized for the needs of each learner. Learning objectives, instructional approaches, and instructional content (and its sequencing) may all vary based on learner needs. In addition, learning activities are made available that are meaningful and relevant to learners, driven by their interests and often self-initiated" (p. 7). Differentiated curriculum and instruction, as discussed above, is one of the widely supported ways to tailor and optimize learning objectives, approaches, content, and tools for each learner. The other two practices that have widely been studied in the literature are mentoring programs and adaptive learning, both of which share attributes with personalized learning and create equitable opportunities for students.

Adaptive learning provides personalized learning, assessment, and feedback for students through the use of technology (Moeller & Reitzes, 2011). Research has suggested that students, regardless of age, are motivated to learn new technologically-based tasks (Bruder, Blessing, & Wandke, 2014). Adaptive learning is driven by a student's interaction, behavior, aptitude and performance. The content is adjusted based on these factors and the resources are attuned according to differences in needs and experiences of learners. Students who already master the content and skills have opportunities to work on more advanced topics and tackle more difficult problems. Research has shown that, through adaptive learning, advanced students explore disciplines using authentic methodologies (Siegle, 2017), and implement the creative processes of professionals to create products that rival those made by professionals (Siegle, Amspaugh, & Mitchell, 2017).

Although mentorship programs are increasingly recognized as a means of providing guidance for students with varied academic, behavioral, and social needs, Callahan and Dickson (2014) reported,

> The very limited empirical literature on the roles that mentorships have played in the lives of gifted individuals and the effects of mentor relationships relies on post- hoc analyses of biographical data, case study analyses, and/or retrospective questionnaire data. Experimental studies of the effects of programs or specific types of mentorships or gifted students do not exist (p. 420).

An older study that examined high school students' experiences in a mentoring program confirmed significant differences between classroom experiences and mentorships, with students noting that mentorships

(a) provided increased learning opportunities;

(b) provided the setting for students to develop an increased willingness to take risks;

(c) helped them develop talents and learn about advanced subject matter; and

(d) gave them more opportunity to work independently, utilize technical skills, utilize research skills, investigate job routines and responsibilities, find out about career entrance requirements, examine lifestyles and characteristics of professionals, see how professionals interact, and make contacts and network" (Beck, 1989 cited in Callahan and Dickson (2014).

Mentorships can be an effective educational intervention for educating and encouraging highly capable and advanced students (Clasen & Clasen, 2003; Mammadov & Topcu, 2014). Mentoring provides advanced students with opportunities to focus intensely on their area of interest and ability and explore it in a "ceilingless" environment (Purcell, Renzulli, McCoach, &

Spottiswoode, 2002). Mentors can help advanced students who face obstacles in realizing their potential (Clasen & Clasen, 2003). Mentors who have an expertise in a particular field can inspire, challenge, and encourage advanced students in their academic and psychosocial growth. Callahan & Dickson (2014) stated that the functions of the mentor in late adolescent/adult gifted individuals were three-fold: that of a role-model, personal support, and professional socialization. There is also research to suggest that mentoring for special populations of students, including females, and those historically underrepresented groups have had positive effects, especially in the realm of academic achievement and career development.

These dimensions of benefits suggest that computer-mediated solutions and mentorship programs should be considered as personalized learning approaches that can influence advanced students' skills, knowledge, interests, ways of thinking, and perspectives at different stages of their academic, social, and personal lives.

Social and Emotional Considerations for Advanced Learners

Social and emotional needs of advanced learners are important factors in transforming their potentials into success (Olszewski-Kubilius, Subotnik, & Worrell, 2015). Some researchers argue that highly capable or advanced students may have unique characteristics that render them particularly vulnerable to an array of social and emotional problems (Peterson, 2009), whereas others support the idea that these students are no more likely to be vulnerable to social and emotional difficulties than other students (Shechtman & Silektor, 2012). A recent comprehensive review of research on social and emotional development of highly capable children suggested that serious social and emotional issues appear no more or less often among highly capable students than among their peers (Neihart, Pfeiffer, & Cross, 2015). Social and emotional difficulties that might arise among advanced students are likely to be due to a mismatch between

a student and his/her environment (Rinn, 2018). Therefore, educators and advanced learner specialists will need to focus on strategic instructional design, counseling, appropriate educational placement, and effective pedagogical strategies as the major means to meet social and emotional needs of advanced learners.

Teachers who acquire as much information about their students as they can are likely to be successful in addressing these distinct levels of experiences and needs. Using, for example, interest inventories to learn about each student is also an important message to them saying, “I care about you and your interests” (Hébert, 2018). Nugent (2005) recommended that teachers develop their own questionnaires asking about what students enjoy the most outside classroom, who are the most important people in their lives, and how they feel about particular school subjects. Such information will also help teachers in the planning and designing supportive learning environment that is inclusive of every student.

Teachers should consider integrating an affective component in the curriculum for advanced learners. According to VanTassel-Baska (2009), the areas of affective program for advanced learners ideally would contain self-assessment, philosophy of life, bibliotherapy, a talent development plan, and an emotional intelligence curriculum emphasis. Peterson (2016) suggested that affective curriculum helps children to reflect about themselves and others, develop positive relationships, learn expressive language, explore careers, make effective decision, and progress with developmental tasks. Teachers can infuse affective curriculum into their classrooms by, for example, asking students to write reflections to literature, self-assessments of values and beliefs, affective insights through books, or responses to social and emotional issues described in films or discussions (Hébert, 2018). A longitudinal study of the implementation of affective curriculum in a school for advanced learners showed that weekly

development-oriented, teacher-led small-group discussions provided support for institutionalization of the program and its continuation (Peterson & Lorimer, 2011).

Implications

Serving the needs of students who are labeled either highly capable or advanced learners requires a holistic approach. Research shows that their academic needs require advanced and skilled teaching strategies to make sure that they are challenged appropriately. They also need attention to their social and emotional growth. Attention to their outside interests, future career possibilities, and planning for their academic future is an important part of their identity, and more attention in schools to preparing for the future is desired by parents as well as future employers. In designing a service delivery model to best serve advanced learners, keep in mind four areas that support their growth: Academic, social/emotional, college or career planning, and parent and community engagement and support (see Diagram 1).

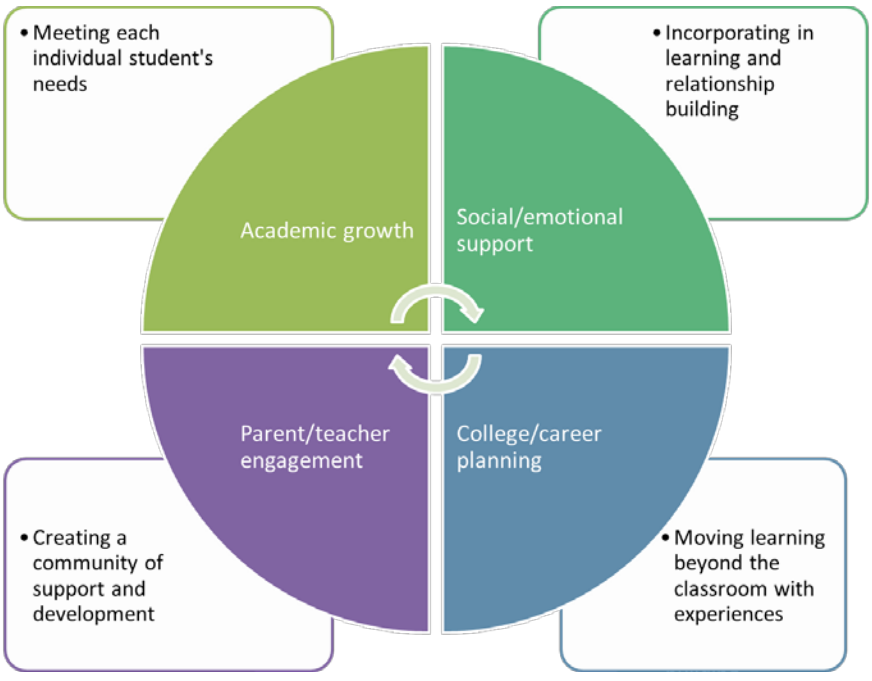


Diagram 1: *Hi-Cap program model (*Grubbs & Hertzog, 2017)

A number of conclusions and recommendations can be drawn from this literature review:

- No single approach can be used to address all students' needs.
- A variety of programming, from inquiry-based learning and differentiation to personalized learning practices, must be available to address the unique needs of advanced students.
- Educators should use appropriate accelerative opportunities.
- Ongoing assessment practices are critical to informing instructional decision-making.
- Appropriate levels of challenge must be an important component of curricular and instructional solutions for advanced students.
- Advanced learners, like all students, need to feel competent, connected to others, and have a sense of autonomy in their learning (Deci & Ryan, 2000).

Not all teachers are appropriately trained to meet the needs of advanced learners. Teachers' positive perceptions and attitudes toward differentiation and other principles are not enough to implement effective instructional and curricular practices without training. Students in advanced learning programs must be guided by the professional expertise of highly trained teachers to reach their highest capabilities (Manning et al., 2010). The limited research on the effectiveness of teachers with training in gifted education suggests that teacher professional development and coursework have a positive influence on teachers' knowledge and skills in matching their instructional practices to the needs of their advanced learners (Hertberg-Davis, 2009; Robinson, 2008). According to Evans (2018), effective teachers of highly capable or advanced students must have both strong subject area expertise and an understanding of and appreciation for the special needs of these students. Therefore, a final recommendation based on

this literature review is to ensure professional development for educators who work with advanced learners, as well as programs that help parents become partners in supporting the growth of their children.

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Appendix: Literature Review Methodology

Primary Search Terms*	Results	Relevant Literature
Ability Grouping	140	Herrmann, J. R., Schmidt, I., Kessels, U., & Preckel, F. (2016). Big fish in big ponds: Contrast and assimilation effects on math and verbal self-concepts of students in within-school gifted tracks. *British Journal of Educational Psychology, 86,* 222-240. Neihart, M. (2007). The socioaffective impact of acceleration and ability grouping: Recommendations for best practice. *Gifted Child Quarterly, 51,* 330-341. Plucker, J. A., Robinson, N. M., Greenspon, T. S., Feldhusen, J. F., McCoach, D. B., & Subotnik, R. F. (2004). It's not how the pond makes you feel, but rather how high you can jump. *American Psychologist, 59,* 268-269. Steenbergen-Hu, S., Makel, M. C., & Olszewski-Kubilius, P. (2016). What One Hundred Years of Research Says About the Effects of Ability Grouping and Acceleration on K–12 Students' Academic Achievement: Findings of Two Second-Order Meta-Analyses. *Review of Educational Research, 86,* 849-899.
Acceleration	359	Assouline, S., & Lupkowski-Shoplik, A. (2018). Acceleration: Practical applications and policy implications. In J. L. Roberts, T. F. Inman, and J. H. Robins (Eds.)., *Introduction to gifted education* (pp. 237-253). Waco, TX: Prufrock Press. Assouline, S., Colangelo, N. J. Van Tassel-Baska, & Lupkowski-Shoplik, A. (Eds.). (2015). *A nation empowered: Evidence trumps the excuses holding back America's brightest students.* Iowa City, IA: Belin-Blank Center. Neihart, M. (2007). The socioaffective impact of acceleration and ability grouping: Recommendations for best practice. *Gifted Child Quarterly, 51,* 330-341.
Adaptive Learning	13	Moeller, B. & Reitzes, T. (2011). *Integrating Technology with Student Centered Learning.* Quincy, MA: Education Development Center. Siegle, D., Amspaugh, C. M., & Mitchell, M. S. (2017). Learning from and learning with technology. In J. VanTassel-Baska & C. A. Little (Eds.), *Content-based curriculum for high-ability learners* (3rd ed., pp. 437-460). Waco, TX: Prufrock Press.

Primary Search Terms*	Results	Relevant Literature
Affective Curriculum	37	Peterson, J. S. (2016). Affective curriculum: Proactively addressing the challenges of growing up. In K. R. Stephens and F. A. Karnes (Eds.), *Introduction to curriculum design in gifted education* (pp. 307-330). Waco, TX: Prufrock Press. VanTassel-Baska, J. (2009). Affective curriculum and instruction for gifted learners. In J. VanTassel-Baska, T. L. Cross, & F. R. Olenchak (Eds.). *Social-emotional curriculum with gifted and talented students* (pp. 113-132). Waco, TX: Prufrock Press.
Curriculum	1514	Little, C., Feng, A., VanTassel-Baska, J., Rogers, K., & Avery, L. (2007). A study of curriculum effectiveness in social studies. Gifted Child Quarterly, 51(3), 272−284. VanTassel-Baska, J., & Wood, S. (2010). The integrated curriculum model (ICM). *Learning and Individual Differences, 20*, 345-357. VanTassel-Baska, J., & Brown, E. (2007). Towards best practice: An analysis of the efficacy of curriculum models in gifted education. *Gifted Child Quarterly, 51*, 342-358.
Differentiation	373	Hertberg-Davis, H. (2009). Myth 7: Differentiation in the regular classroom is equivalent to gifted programs and is sufficient. *Gifted Child Quarterly, 53*, 251-253. Inman. T. F. & Roberts, J. L. (2018). Differentiation. In J. L. Roberts, T. F. Inman, & J. H. Robins (Eds.)., *Introduction to gifted education* (pp. 253-277). Waco, TX: Prufrock Press. Manning, S., Stanford, B. P., & Reeves, S. (2010). Valuing the advanced learners: Differentiating up. *The Clearing House, 83*, 145-149. Tomlinson, C. A., Brighton, C., Hertberg, H., Callahan, C. M., Moon, T., Brimijoin, K., … Reynolds, T. (2003). Differentiating instruction in response to student readiness, interest, and learning profile in academically diverse classrooms: A review of literature. *Journal for the Education of the Gifted, 27*, 119-145.
Inquiry-based Learning	14	Barron, B., & Darling-Hammond, L. (2008). *Teaching for meaningful learning: A review of research on inquiry-*

Primary Search Terms*	Results	Relevant Literature
		based and cooperative learning. San Francisco, CA: Jossey-Bass.
Mentoring	263	Callahan, C. M. & Dickson R. K. (2014). Mentors and mentorships. In J. A. Plucker and C. M. Callahan, (Eds)., C*ritical issues and practices in gifted education: what the research says.* (2nd ed., pp. 413-426.). Waco, TX: Pufrock Press. Clasen, D. R., & Clasen, R. E. (2003). Mentoring the gifted and talented. In N. Colangelo & G. A. Davis (Eds.), *Handbook of gifted education* (3rd ed., pp. 254-267). Boston, MA: Allyn & Bacon.

**The term "gifted" or "high ability" was used in every search along with one specific keyword.*