THE BERC GROUP

BAKER ▪ EVALUATION ▪ RESEARCH ▪ CONSULTING

PROGRESS REPORT

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College Readiness Math Initiative

DUANE BAKER, Ed.D.
STACY MEHLBERG, Ph.D., ABD
BRYN CHIGHIZOLA, Ph.D., ABD
RONAK PATEL, Ph.D.
PETE ADA

Duane Baker is the founder and president of Baker Evaluation, Research, and Consulting, Inc. (*The* **BERC** *Group*). Dr. Baker has a broad spectrum of public school educational and program experience, including serving as a high school classroom teacher, high school assistant principal, middle school principal, executive director for curriculum and instruction, and assistant superintendent. In addition, he has served as an adjunct instructor in the School of Education at Seattle Pacific University since 1996, where his emphasis has been Educational Measurement and Evaluation and Classroom Assessment.

Dr. Baker also serves as the Director of Research for the Washington School Research Center at Seattle Pacific University. He also serves as an evaluator for several organizations including the Bill & Melinda Gates Foundation, Washington Education Foundation, Washington State Office of Superintendent of Public Instruction, and others.

Members of *The* **BERC** *Group* have K–20 experiences as teachers, counselors, psychologists, building administrators, district administrators, and college professors. The team is currently working on research and evaluation projects at the national, state, regional, district, school, classroom, and student levels in over 1000 schools in Washington State and nationally.

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EXECUTIVE SUMMARY

College Spark Washington (CSW) is a grant making organization dedicated to improving educational outcomes for low-income students in Washington State. In 2014, CSW launched a multifaceted Math Initiative designed to support college readiness around the state. The goal of the initiative is to prepare students to transition into college level math without the need for remediation or other placement courses. This initiative includes the following programs:

> **Intensified Algebra (IA).** Agile Mind and the Charles A. Dana Center developed Intensified Algebra 1 (IA), an intervention program for students struggling in math. This 70 to 90-minute daily math course utilizes a strengths-based approach to build on students' assets and to develop their academic skills through engaging learning experiences.
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> **Bridge to College.** The State Board for Community and Technical Colleges created and implemented senior year college readiness math and English courses* that are designed to align with the Common Core State Standards and with pre-college courses in higher education. The courses were developed collaboratively with high school and college faculties. Seniors who complete the transition courses will be able to move directly to college level math and English courses in college without remediation or additional placement testing.
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> **Academic Youth Development (AYD).** Agile Mind, in collaboration with the Charles A. Dana Center, developed Academic Youth Development (AYD). This program translates research on student motivation, engagement, and learning into practical strategies and tools teachers and students can use daily in the classroom. A specific focus is on growth mindset, whereby teachers and students understand that intelligence is not a fixed quality, and through effective effort, persistence, collaboration, and motivation students can improve their academic success.

As part of this strategy to improve educational outcomes for all students, CSW supports on-going evaluation of each program included in the initiative. This evaluation is intended to provide formative and summative data to help understand the fidelity of program implementation as well as help measure program impact. The evaluation includes mixed-methods and multiple measures. By using qualitative and quantitative measures, and by providing formative and summative evaluation data, we can tell the story of program development, measure the fidelity of program implementation, determine the impact of program components, and provide information for on-going program advocacy and development.

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* Senior transition English courses were included in the Math Initiative evaluation as a courtesy to the State Board of Community and Technical Colleges so they could receive evaluation feedback on both programs.

Intensified Algebra. During the 2017-2018 school year, researchers from The BERC Group visited Cohort 1 and Cohort 2 schools to gather data for this evaluation report. These visits included classroom observations, interviews, and focus groups with IA teachers, school administrators, and, whenever possible, IA students. School leaders from both cohorts were also asked to complete an implementation survey in Spring 2018. Results from qualitative data analysis regarding implementation revealed that school size and staffing issues continued to impact fidelity implementation of IA. Additionally, the social/emotional needs of IA students emerged as a contextual factor impacting implementation. The survey, which included 21 questions focused on five implementation categories, revealed that for both cohorts, implementation practices continued to improve in most areas, although there were differences among schools. Consistently, school leaders scored their school communities lowest on *planning, monitoring implementation progress*, and *professional development*. School leaders recorded their strongest scores around *infrastructure, resources and materials*, and *integration and alignment of resources.*

Quantitative and qualitative data regarding student outcomes revealed mixed results. For both cohorts, program participants reported positive perceptions of the IA course. Many teachers, and students, shared their belief that student efficacy in math was increasing as a result of participating in IA. Specifically, several Cohort 2 teachers felt they were already seeing an improvement in grades for students taking IA, and many also felt their students would be more prepared for success in Geometry following the successful completion of IA. Teachers also reported strong support from their administration and the Agile Mind team. Students noted they were more confident in their math abilities, and liked many components of the IA curriculum, including embedded opportunities to develop math literacy and strengthen their ability to solve problems.

Regarding quantitative data, researchers analyzed student grades, failure rates, discipline, attendance, course taking patterns, and math GPA to better understand math outcomes. A comparison group of students taking Algebra was identified (within-school comparison group), as was a cohort of matched comparison schools that do not offer IA (between-school comparison group). Within schools, there was little statistically significant difference between IA and non-IA students regarding discipline, grades, attendance, or course taking. Researchers did find statistical significance for one group of IA students whose math GPA was higher than their Algebra taking peers. These results should be considered with caution, however, as this is still early in the process of data collection for a long-term initiative.

When analyzing data between schools, results revealed differences between groups. Math grade point averages were calculated based on the Washington State Standardized High School Transcript. Grantee Schools showed a steady increase in average math grades over the four-year span and outperformed Comparison Schools for the Class of 2019 and 2020. Additionally, data showed a steady increase in the percentage of students passing Algebra at Grantee Schools, which outperformed Comparison Schools for the first time with the Class of 2020.

During 2018, several promising practices described in the 2016-2017 report were reinforced and, in some cases, expanded upon. These included:

- ***Habits and Strategies***. Across focus groups, teachers, students, and administrators described instances of positive carryover from IA classrooms into other classrooms.
- ***Leadership Support.*** Focus group members continually reiterated their belief that if leadership ensured IA teachers were given adequate resources, collaboration time, and made organizational changes to accommodate IA, then the capacity for effective implementation and positive outcomes increased.
- ***Generalizability of Strategies.*** The action and capacity of students and teachers transferring their learning within IA to other subjects and contexts was described as a promising practice for both cohorts.
- ***Instructional Growth Mindset***. Several IA teachers also remarked on the benefits of changing their teaching framework and approach to student learning as a result of IA.

Recommendations for the IA initiative were provided based on qualitative and quantitative data. These included considering extending feedback and providing more time for teachers to collaborate and observe one another; expanding professional development to address current student social/ emotional needs and how to support these students; refining the IA student selection process; and identifying strategies to extend the scope of IA within schools.

Bridge to College. Twenty-five schools piloted the Senior Year Transition Courses during the 2014-2015 school year, with additional sites added during each year of implementation. During the 2017-2018 evaluation year, researchers gathered quantitative data to report on student outcomes. This data was retrieved from the ERDC, and will be gathered longitudinally throughout the course of the grant to track students into and beyond their postsecondary education.

Student placement into Bridge to College was not random but influenced by prior academic performance and predetermined program criteria. Therefore, causality between variables cannot be directly assumed. However, analyses revealed patterns and relationships between program variables and student outcomes that can be crucial in providing formative feedback for program development and a determination of overall program effectiveness over time.

Though Cohort 1 students attended 4-year colleges at about the same rate as comparison students, Bridge students that earned a B or higher had a higher enrollment rate at CTCs when compared to the state average. When analyzing college English and Math grades, Bridge to College students had slightly lower grades than their non-Bridge peers in both subjects. Bridge students earned a lower proportion of A's and B's and a slightly higher proportion of C's and D's. Students that scored a B or better in Bridge Math or English courses almost matched non-Bridge students in grade distribution, suggesting that success in a Bridge course may have some positive influence on college grades.

Cohort 2 Bridge to College student data included high school data only. The placement process into Bridge courses for Cohort 2 were quite similar to Cohort 1, as the demographic proportions of students by SBA level and ethnicity were nearly identical. In addition, Cohort 2 Bridge students performed better in Math and English courses when compared to their comparison peers, as measured by the percentage of students failing a course.

Academic Youth Development. Within CSW's Math Initiative, AYD was designed to be delivered during advisories or in other dedicated settings to students in Grades 8, 9, and 10. The intent was to improve all students' Smarter Balanced Assessment scores in the 11th grade. During the 2017-2018 school year, researchers visited Cohort 1 and Cohort 2 schools implementing AYD to gather qualitative data on program implementation.

During the 2017-2018 school year, AYD delivery continued to vary based on school and student needs. In order to accommodate AYD as designed, schools needed to purposefully create their master schedule with the course in mind. Focus group participants spoke about the success, challenges, and benefits of their unique model of AYD delivery, many noting that this flexibility in using the course contents to best meet their needs was a contextual factor allowing the program to work.

Similar to last year, challenges with AYD implementation included repetitive content, concerns about the developmental appropriateness of the lessons, and teacher investment and expertise in content knowledge. This year, several focus group members also noted that holding students' interest throughout the year and managing and providing adequate technology also presented as challenges to implementation. Overall, program participants continued to appreciate the support and professional development opportunities provided during the 2017-2018 school year. They also noted the value of on-site advisor visits, particularly because the program delivery is so site specific.

Despite significant differences in the delivery of AYD across schools, there were several promising practices and successes discussed during focus groups with students, teachers, and administrators from both cohorts. Although it is difficult to quantify outcomes for this program, as there is no consistently administered intervention to measure, stakeholders at the school level felt strongly that they were seeing shifts in thinking and attitude regarding learning, the generalizability of skills from the AYD curriculum, and positive impacts on the school community as a whole. Recommendations for continued development of the AYD program included continued attention to staff selection, and increasing the content rigor to address concerns about maintaining student engagement.

COLLEGE READINESS INITIATIVE INTERIM EVALUATION REPORT

Introduction

College Spark Washington (CSW) is a grant making organization dedicated to improving educational outcomes for low-income students in Washington State. In 2014, CSW launched a multifaceted Math Initiative designed to support college readiness around the state. The goal of the initiative is to prepare students to transition into college level math without the need for remediation or other placement courses. The initiative began by developing strategies and partnerships to provide programs targeted to students who performed at below grade level on the Smarter Balanced Assessment. However, the initiative has since become a series of best practices in college-readiness and student support that will provide additional support to students who are not prepared to succeed in college-level courses. While the seven-year initiative includes strategies for students who perform at all levels on the Smarter Balanced Assessment, the programs as designed are not intended to target specific achievement levels on the SBA. Information about the different strategies within the initiative is included below.

Intensified Algebra

Agile Mind and the Charles A. Dana Center developed Intensified Algebra 1 (IA), an intervention program for students struggling in math. This 70 to 90-minute daily math course utilizes a strengths-based approach to build on students' assets and to develop their academic skills through engaging learning experiences. Intensified Algebra targets conceptual understanding, provides integrated problem-solving strategies, supports distributed practice, reengages learners through multiple representations of mathematical ideas, integrates interventions from social psychology to motivate students' positive beliefs, encompasses enhanced formative assessment strategies, and includes support for struggling students and for literacy and language development.

Within CSW's Math Initiative, IA was delivered to 8th, 9th, and 10th grade students who were one to three years behind in math. The intent of this program is to have more students become successful at Algebra 1 by passing the course the first time and by increasing the percentage of students scoring at or above standard on the Smarter Balanced Assessment.

Bridge to College Math and English/Language Arts

The State Board for Community and Technical Colleges created and implemented senior year college readiness math and English courses[†] that are designed to align with the Common Core State Standards and with pre-college courses in higher education. The courses were developed collaboratively with high school and college faculties. Seniors who complete the transition courses will be able to move directly to college level math and English courses in college without remediation or additional placement testing.

Twenty-five schools piloted the Senior Year Transition Courses in the 2014-2015 school year, with additional schools being added during each year of implementation. A current and complete list of schools offering Bridge to College courses is included in Appendix C. The goal of the strategy is to improve the college readiness of students graduating high school, to develop college to school partnerships, to reinforce transcript placement efforts with the smarter balanced assessment, and to provide rigorous alternatives to algebra 2 as the third-year math course.

Academic Youth Development

Agile Mind, in collaboration with the Charles A. Dana Center, developed Academic Youth Development (AYD). This program translates research on student motivation, engagement, and learning into practical strategies and tools teachers and students can use daily in the classroom. A specific focus is on growth mindset, whereby teachers and students understand that intelligence is not a fixed quality, and through effective effort, persistence, collaboration, and motivation students can improve their academic success.

Within CSW's Math Initiative, AYD was designed to be delivered during advisories or in other dedicated settings to students in Grades 7, 8 and 9. The intent was to improve all students' Smarter Balanced Assessment scores in the 11th grade. Additional research on this program, conducted by the Charles A. Dana Center, has demonstrated improvements in students' overall Grade Point Average (GPA) as well as decreases in student absences and disciplinary referrals.

Evaluation Design

College Spark Washington's Math Initiative is unique because of the multi-pronged strategy to improve math. As such, in addition to the overall comprehensive evaluation presented in this report, each partner is conducting their own research and collecting their own data on the

[†] Senior transition English courses were included in the Math Initiative evaluation as a courtesy to the State Board of Community and Technical Colleges so they could receive evaluation feedback on both programs.

intervention. For example, the University of Texas, Dana Center and Agile Mind are collecting data on program usage and measures of growth-mindset and non-cognitive factors. The State Board of Community and Technical Colleges are gathering additional data to assess the value of the course material, the quality of the course training and technical support, and the impact on college readiness and success in college.

The purpose of this comprehensive report is to address each of these initiatives and to assess the levels of implementation and impact individually and collectively. This evaluation is intended to provide formative and summative data to help understand the fidelity of program implementation as well as help measure program impact. The evaluation includes both mixed-methods and multiple measures. By using both qualitative and quantitative measures, and by providing both formative and summative evaluation data, we can tell the story of program development, measure the fidelity of program implementation, determine the impact of program components, and provide information for on-going program advocacy and development. In future reports, we will analyze cohorts of students who receive the intervention longitudinally to determine long-term impact. This serves as the Year 3 report (SY 2017 – 2018).

Methodology

To strengthen the study, we identified two different comparison groups, helping us to understand the impact of the initiatives more clearly. Within schools, we analyzed the results of students participating in the initiatives compared to similar students who did not participate in these courses. In addition, we also identified a group of comparison schools to analyze the impact of School Year Academic Youth Development (SY-AYD) and Intensified Algebra (IA) on the school as a whole. The comparison schools are similar to the grantee schools in size, percent free/reduced lunch, and percent non-white. Throughout this report, comparison students refer to students in IA schools that did not participate in IA courses in 9^{th} grade. Additional analysis included in future reports will include within school and between school comparison groups.

Quantitative data for the 2017 – 2018 school year were not available at the time of publication of this report. As such, all quantitative evidence is from the 2016-2017 academic year, while qualitative interviews and implementation survey data represent the 2017-2018 academic year. Quantitative data and analyses for the 2017-2018 school year will be provided in the Fall 2019 progress report.

Research Questions

There are three separate programs of study. Research questions are listed below.

1. To what extent was the initiative implemented as intended?
    a. Academic Youth Development
    b. Intensified Algebra 1
    c. Senior Year Transition Math Course
2. What are the barriers/challenges to implementing the initiative?
    a. Academic Youth Development
    b. Intensified Algebra 1
    c. Senior Year Transition Math Course
3. To what extent did the technical assistance support implementation?
    a. Academic Youth Development
    b. Intensified Algebra 1
    c. Senior Year Transition Math Course
4. What organizational changes are required for, or correlate with, successful project implementation?
    a. How do schools successfully implement multiple components?
5. What role did leadership play in successful project implementation?
6. To what extent do student outcomes change overtime (by strategy)?
    a. Attendance
    b. Discipline Referrals
    c. Academic Mindset
    d. Algebra by 8th and 9th Grade
        i. Failure Rates
        ii. Grades
    e. Math Course Taking Patterns in High School
        i. Failure Rates
        ii. Highest Level of Math
    f. Math Achievement on Smarter Balanced
    g. College Attendance and Persistence
    h. College Remediation Rates
    i. Completion of First Math Course (1st Year and 2nd Year)
    j. Completion of First English Course (1st Year and 2nd Year)
7. To what extent do the initiatives collectively impact student outcomes?
8. What are the promising practices?
9. To what extent are the changes sustainable?

Study Schools

Researchers at The BERC Group created a matched set of comparison schools for the Agile Mind schools. Researchers used propensity score matching based on school demographics and location (see Appendix A). Appendix B includes a comprehensive list of all grantee schools for Agile Mind (IA and AYD) and Bridge to College (math and English). A list of schools disaggregated by program is available in Appendix C. Researchers from The BERC Group worked with the Educational Research and Data Center (ERDC) to gather student-level data for all cohort and comparison schools, including demographic, achievement, and grade history data. In future years, researchers will also collect and analyze college-going and persistence data.

INTENSIFIED ALGEBRA

During the 2017-2018 school year, researchers from The BERC Group visited Cohort 1 and Cohort 2 schools to gather data on the implementation of IA, perceptions of support, outcomes, barriers, and promising practices. These visits included classroom observations, interviews, and focus groups with IA teachers, school administrators, and, whenever possible, IA students. Qualitative data were then coded and themed, and commonalities and trends were identified within each cohort, and across the entire project. As cohort participants reflected on the IA program within their schools, they continued to highlight the importance of teacher and student selection, the benefit of opportunities to observe and collaborate with their peers, and the success of IA when it is implemented with fidelity. Results from each cohort are presented individually throughout the report, although themes that apply to both are highlighted as well.

Contextual Factors

Cohort 1

During the 2017-18 school year, some contextual factors for Cohort 1 schools remained consistent with prior years of implementation. School size and staffing issues continued to impact fidelity implementation of IA. Additionally, the social/emotional needs of IA students emerged as a contextual factor impacting implementation.

School size. Cohort 1 schools continued to indicate that school size impacted IA implementation due to a limited capacity to make the organizational changes required (e.g., adjust school schedule, smaller class size, student selection). Specifically, Manson High School decided to drop out of the program this year due to these difficulties even though they had continued funding for the IA program. They did, however, decide to keep their AYD program, which was a better fit for their small school model. Several focus group members made a recommendation for an alternative implementation model focused on small schools to address this contextual factor.

Staffing. The capacity to select appropriate IA staff continued to emerge as a prominent factor contributing to program implementation. Several focus group participants acknowledged that there are characteristics and attributes of teachers that contribute to the success of the IA program. School leaders continued to identify challenges to the teacher selection process, including staff turnover, lack of availability to select teachers based on interest over availability, and, in some cases, restrictions based on funding. Cohort 1 administrators noted that when schools experience staff turnover during the year, filling an IA position can pose an extra challenge due to the expectation that teachers will likely need to adjust their teaching practices to align with the curriculum's student-centered pedagogical framework.

Social/ Emotional Student Needs. In addition to school size and teacher selection, many focus group participants indicated that they struggled to effectively manage students' social/emotional needs within IA classrooms. Specifically, they had difficulty applying effective behavior management strategies during these extended learning blocks. Focus group participants generated several ideas to ameliorate this challenge, including providing additional training opportunities focused on behavior management techniques, further refinement of the student selection process, and additional staffing support during IA classes.

Cohort 2

Similar to Cohort 1, Cohort 2 focus group participants highlighted IA staff selection and capacity to meet student social/ emotional needs as contextual factors impacting program implementation.

Staffing. Small teacher selection pools and staff turnover impacted school leaderships' ability to identify and select teachers that were willing to implement the program with fidelity. One commented on important attributes in IA teacher selection, noting, "You must have teachers who are willing to work together, and they can't be afraid of teaching differently. You can't go back to your old style of teaching." Additionally, one focus group member suggested providing an opportunity for candidates to observe an IA lesson during the hiring process, sharing, "Teachers should have a chance to observe a class beforehand to see if it's a good fit for their teaching style."

Social/ Emotional Student Needs. Many focus group members indicated that the student populations that tend to be selected for their IA classes need extra behavioral support. One commented, "The density of students with social/emotional needs is the biggest challenge; it limits the ability to get them to engage." Additionally, one focus group member shared, "Often students who need more support get clumped together which make classes difficult to manage." Focus group members made similar recommendations to Cohort 1participants regarding social/ emotional support for struggling students, noting that more professional development, additional staffing support, and careful student selection would strengthen their ability to deliver IA with fidelity.

Evidence of Implementation

Research Question 1: To what extent was the initiative implemented as intended?

To quantify grantee implementation efforts, researchers developed the Intensified Algebra Implementation Survey, administered via Survey Monkey in June 2018. Respondents were asked 21 questions focused on five implementation categories. These categories included: *Planning; Infrastructure, Resources and Materials; Integration and Alignment of Resource; Monitoring Implementation Progress; and Professional Development.* Likert style questions were used to determine the level of implementation fidelity, with a score of "1" demonstrating weak implementation fidelity, and a score of "4" representing strong implementation fidelity. Additionally, data on student selection, demographic representation in IA classes, and course delivery was gathered through survey questions and qualitative data collection. When possible, data was disaggregated by cohort and by the year in which IA was taken. For example, Cohort 1A includes students in Cohort 1 that were part of the first wave of implementation in 2015-2016, while Cohort 1B, includes students in Cohort 1 who took IA in 2016-2017.

Cohort 1

Longitudinal survey results for Cohort 1 schools are presented in Figure 1. Nine school leaders completed the survey during the 2018 administration. Over time, Cohort 1 implementation practices have become more aligned with the desired level of IA implementation, particularly regarding infrastructure and integration of resources and materials.

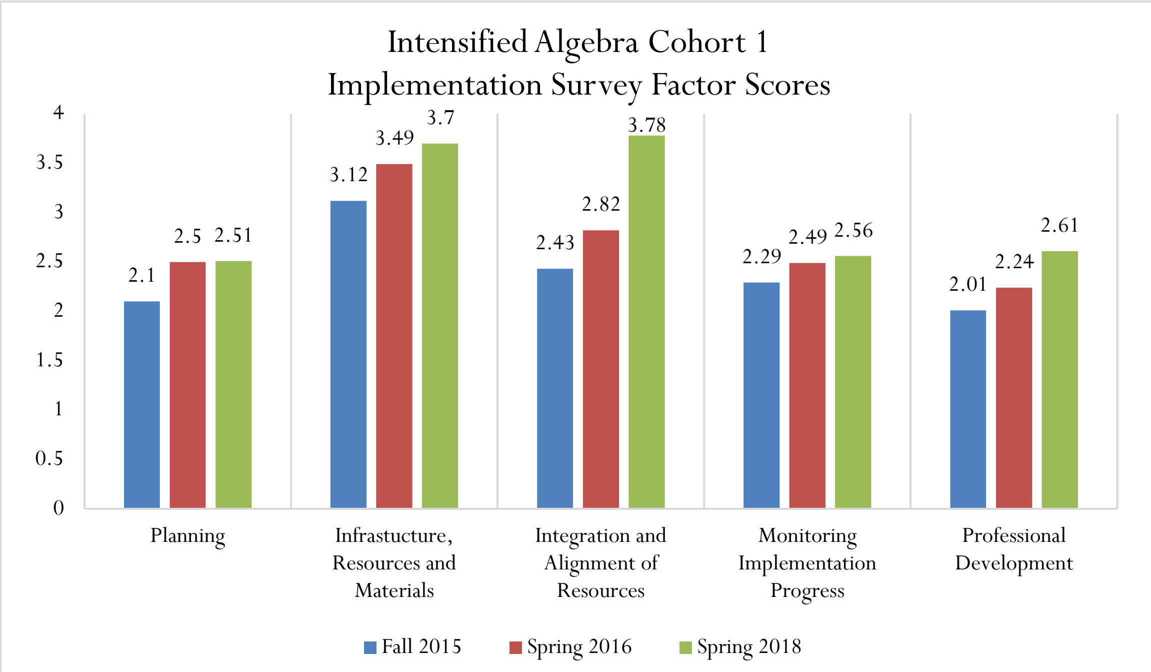

Figure 1. Cohort 1 Implementation Survey Factor Scores, 2015-2018

Table 1. shows Cohort 1 survey results disaggregated by school. Cohort 1 disaggregated results over time were not included due to the inconsistency of schools completing the survey each year. During Year 3, the majority of school leaders that completed the survey indicated that *Planning*, *Monitoring Implementation Progress*, and *Professional Development* continued to be areas of weaker alignment, while the *Infrastructure, Resources and Materials*, and *Integration and Alignment of Resources* were considered areas of strength. One focus group member commented on their comprehensive implementation efforts:

> Our teachers have bought in. They have embraced this and really made it successful. We have implemented with fidelity. We've given it the time it needs, the blocked periods, the technology and support, teacher training/prep/collaboration time, and administrator priority. I don't think we can ask the kids to buy in if we aren't all in ourselves.

Table 1
Cohort 1 2017-2018 School Level Survey Responses

Cohort 1 2018 Factor Scores, by School					
School	Planning	Infrastructure, Resources and Materials	Integration and Alignment of Resources	Monitoring Implementation Progress	Professional Development
Wahluke H.S.	2.29	3.33	3	2	1.5
Mount Baker H.S.	1.43	3.67	4	2	2.25
Reardan Middle and H.S.	3.00	3.67	4	1.5	2.25
Granite Falls H.S.	2.71	4.00	4	3.5	2.5
Tonasket M.S.	2.86	3.67	4	2	2.75
Bellingham H.S.	3.43	3.67	4	2.75	3.25
Walla Walla H.S.	0.14	3.33	3	2.5	1
Sehome H.S.	3.29	4.00	4	3.25	4
Wapato H.S.	3.43	4.00	4	3.5	4

Student Selection. Focus group members and survey respondents indicated a variety of selection criteria utilized to place students into IA. The majority of Cohort 1 schools utilized quantitative assessments (e.g., absenteeism, discipline, SBA) in addition to qualitative assessments including principal, teacher, and counselor recommendations (Figure 2). Additionally, several focus group participants indicated that their school's plan moving forward is to include students in the selection process by sharing more IA related information with students and inviting them into IA instead of making it mandatory.

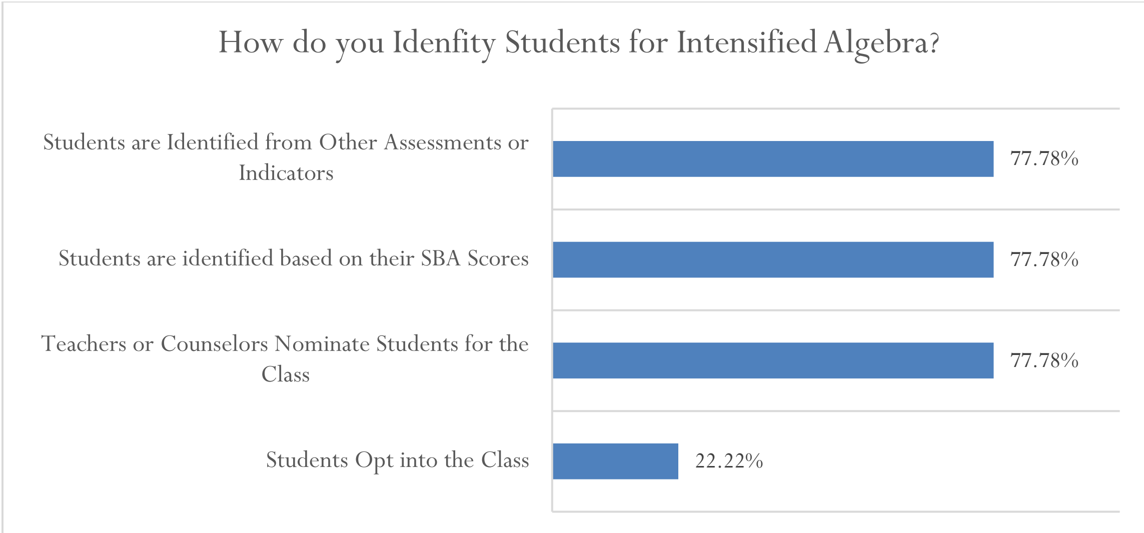

Figure 2. Cohort 1 Student Selection Survey Responses.

Researchers collected data on students' performance on the Smarter Balance Assessment (SBA) to better understand placement into 9th grade math courses. The SBA is administered in 8th grade, and students receive a scaled score, and an achievement level designation. Students receiving a Level 3 or Level 4 are considered "on track" to demonstrate the knowledge and skills necessary for college and career readiness. Researchers disaggregated school level data to understand the enrollment of students in different sub-groups related to math course taking. Specifically, Tables 2 through 7 represent the percentage of students by SBA level for all 9th grade math students, math students enrolled in Algebra in 9th grade, and math students enrolled in IA.

Cohort 1A: All 9th Grade Math Students, by 8th Grade SBA Level. When looking at the entire population of 9th grade math taking students in Cohort 1A, approximately 34% of students scored at Level 1 on their 8th grade SBA, 25.3% scored at Level 2, 18% a Level 3, and approximately 23% scored at Level 4 (Table 2).

Table 2

Cohort 1A Whole School SBA Level

SBA Level	Percentage
L1	33.7%
L2	25.3%
L3	18.0%
L4	22.8%

Cohort 1A: 9th Grade Algebra Students, by 8th Grade SBA level. When looking specifically at 9th grade Algebra students, approximately 41% scored at Level 1, 35.5% at Level 2, approximately 18% at Level 3, and 5.4% at Level 4 (Table 3).

Table 3

Cohort 1A Algebra Makeup by SBA Level

SBA Level	Percentage
L1	41.4%
L2	35.5%
L3	17.7%
L4	5.4%

Cohort 1A: 9th Grade IA Students, by SBA level. Finally, an analysis of Cohort 1A IA students showed that 60.5% scored at Level 1 on their 8th grade Math SBA. Thirty-four percent of IA students scored at Level 2 and 5% of students scored at Level 3 and Level 4. Overall, IA students represented approximately 16% of the total population of 9th grade math taking students in Cohort 1A (Table 4).

Table 4

Cohort 1A IA Makeup by SBA Level

SBA Math Level	Percentage
L1	60.5%
L2	34.3%
L3	4.7%
L4	0.4%

Cohort 1B: All 9th Grade Math Students, by 8th Grade SBA Level. When looking at the entire population of 9th grade math taking students in Cohort 1B, approximately 33% of students scored at Level 1 on their 8th grade SBA, 26.9% scored a Level 2, 19% a Level 3, and 21% scored at Level 4 (Table 5). These percentages are similar to Cohort 1A students, who were 9th graders at the same schools one year prior.

Table 5

Cohort 1B Makeup SBA Level

SBA Level	Percentage
L1	32.7%
L2	26.9%
L3	19.2%
L4	21.0%

Cohort 1B: 9th Grade Algebra Students, by 8th Grade SBA level. When looking specifically at 9th grade Algebra students, approximately 34% scored at Level 1, 37.3% at Level 2, approximately 21% at Level 3, and 7.9% at Level 4 (Table 6).

Table 6

Cohort 1B Algebra Makeup by SBA Level

SBA Level	Percentage
L1	34.3%
L2	37.3%
L3	20.5%
L4	7.9%

Cohort 1B: 9th Grade IA Students, by 8th Grade SBA level. Finally, an analysis of Cohort 1B IA students showed that 57.6% of IA students scored at Level 1 on their 8th grade Math SBA. Thirty-one percent of IA students scored at Level 2 and approximately 11% of students scored at Level 3 and Level 4. Overall, IA students represented approximately 14% of the total population of 9th grade math taking students in Cohort 1B (Table 7).

Table 7

Cohort 1B IA Makeup by SBA Level

SBA Level	Percentage
L1	57.6%
L2	31.2%
L3	9.8%
L4	1.3%

To further understand the proportion of students taking IA within the entire population, researchers disaggregated the data by SBA level and course type. Table 8 represents the data for Cohort 1A and Table 9 represents the data for Cohort 1B. Overall, IA students who scored Level 1 on their 8th grade SBA made up about 31% of all 9th grade L1 math taking students in Cohort 1A.

Table 8

Cohort 1A Course Distribution by SBA Level

SBA Level	IA Students	Algebra Students	Other Math Students
L1	31.0%	46.0%	22.9%
L2	22.4%	51.9%	25.7%
L3	4.4%	36.0%	59.5%
L4	0.3%	8.6%	91.1%

Table 9

Cohort 1B Course Distribution by SBA Level

SBA Level	IA Students	Algebra Students	Other Math Students
L1	26.2%	41.9%	31.8%
L2	17.5%	56.1%	26.5%
L3	7.4%	41.2%	51.4%
L4	0.9%	14.4%	84.8%

Ethnicity. Table 10 displays the ethnicity data for all students in Cohort 1A, disaggregated by performance level on the 8th grade SBA. Overall, approximately 51% of the students identified as White, and approximately 33% identified as Hispanic/ Latino. Of these two racial groups, a similar percentage of students scored at Level 1 on their 8th grade SBA.

Table 10

Cohort 1A Demographics by SBA Level, all Students

Ethnicity	L1	L2	L3	L4	Total
American Indian	2.2%	0.8%	0.5%	0.2%	3.7%
Asian	0.5%	1.0%	0.7%	1.4%	3.6%
Black/African American	1.4%	0.5%	0.2%	0.2%	2.4%
Hispanic/Latino	**14.1%**	**9.5%**	**5.3%**	**3.8%**	**32.7%**
Pacific Islander	0.4%	0.2%	0.2%	0.1%	0.9%
Two or more races	2.0%	1.3%	1.1%	1.6%	6.1%
White	**13.2%**	**12.0%**	**10.0%**	**15.5%**	**50.7%**

When looking specifically at students taking IA, the data disaggregated by ethnicity shows that 52.9% of IA students in Cohort 1A were Hispanic/Latino while 35.0% were White (Table 11). Additionally, 30.7% of Cohort 1A students placed into IA were Hispanic/Latino students that scored L1 on their 8th grade Math SBA.

Table 11

Cohort 1A, Demographics by SBA Level, IA Students

Ethnicity	L1	L2	L3	L4	Total
American Indian	3.0%	1.3%	0.4%	0.0%	4.7%
Asian	0.9%	0.4%	0.0%	0.0%	1.3%
Black/African American	2.1%	0.4%	0.0%	0.0%	2.6%
Hispanic/Latino	**30.7%**	**19.6%**	2.3%	0.2%	**52.9%**
Pacific Islander	0.0%	0.2%	0.0%	0.0%	0.2%
Two or more races	2.3%	1.1%	0.0%	0.0%	3.4%
White	**21.5%**	**11.3%**	1.9%	0.2%	**35.0%**

Table 12 shows the ethnicity data for all math students in Cohort 1B, disaggregated by performance level on the 8th grade SBA. Similar to cohort 1A, White and Latino/ Hispanic students make of the majority of math taking students, with 50.7% of all 9th grade math taking students identifying as white, and 32.7% identifying as Hispanic/ Latino. Additionally, and similar pattern of course selection by ethnicity and SBA level for IA students revealed that a larger percentage of Hispanic/ Latino students scoring Level 1 on their 8th grade SBA were placed into IA than White students (Table 13). This inverse relationship can be seen in both years of 9th grade data analyzed in this report.

Table 12

Cohort 1B Whole School Demographics by SBA Level

Ethnicity	L1	L2	L3	L4	Total
American Indian	1.7%	0.8%	0.4%	0.4%	3.2%
Asian	0.5%	1.0%	0.8%	1.2%	3.4%
Black/African American	1.1%	0.4%	0.2%	0.4%	2.1%
Hispanic/Latino	**15.2%**	**9.6%**	**5.5%**	**3.0%**	**33.3%**
Pacific Islander	0.4%	0.2%	0.1%	0.0%	0.7%
Two or more races	2.3%	1.7%	1.4%	1.3%	6.7%
White	**11.6%**	**13.1%**	**10.9%**	**14.8%**	**50.5%**

Table 13

Cohort 1B IA Demographics by SBA Level

Ethnicity	L1	L2	L3	L4	Total
American Indian	2.3%	0.3%	0.3%	0.3%	3.0%
Asian	0.5%	1.0%	0.5%	0.0%	2.0%
Black/African American	1.8%	0.0%	0.0%	0.0%	1.8%
Hispanic/Latino	**33.2%**	**12.3%**	2.8%	0.3%	**48.6%**
Two or more races	1.5%	1.8%	0.8%	0.0%	4.0%
White	**18.4%**	**15.9%**	5.5%	0.8%	**40.6%**

Figures 3 and 4 display the ethnicity distribution of students in IA compared to the overall population. The 100% line corresponds to equal representation. A percentage higher than 100% indicates over representation while a percentage lower than 100% indicates under representation. This comparison revealed that in IA courses for Cohort 1A and 1B, Hispanic/Latino and Native American students were overrepresented, while all other groups of students were underrepresented.

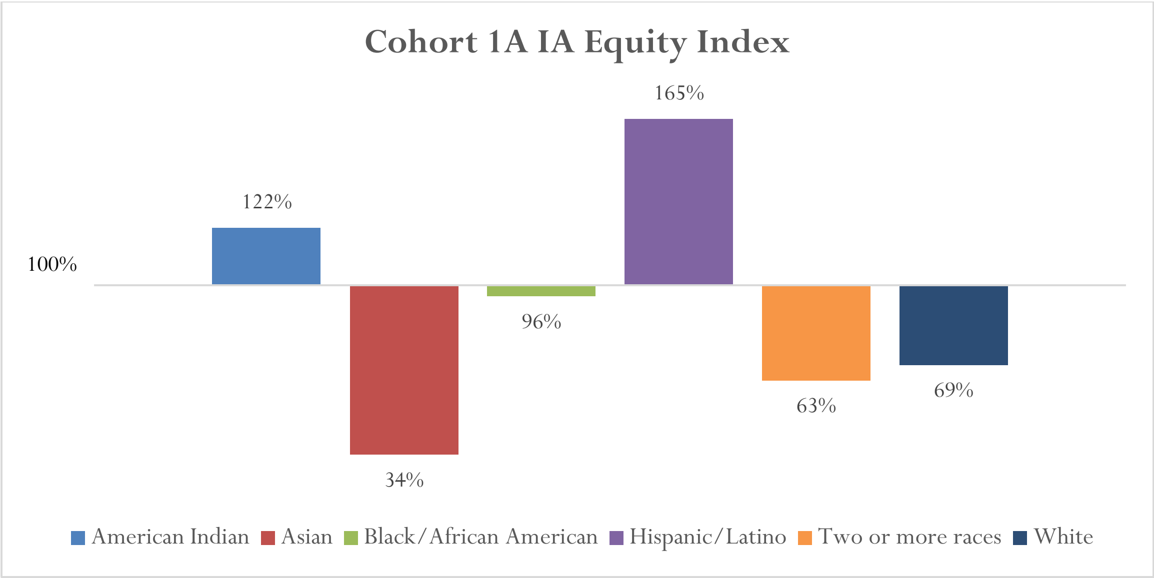

Figure 3.

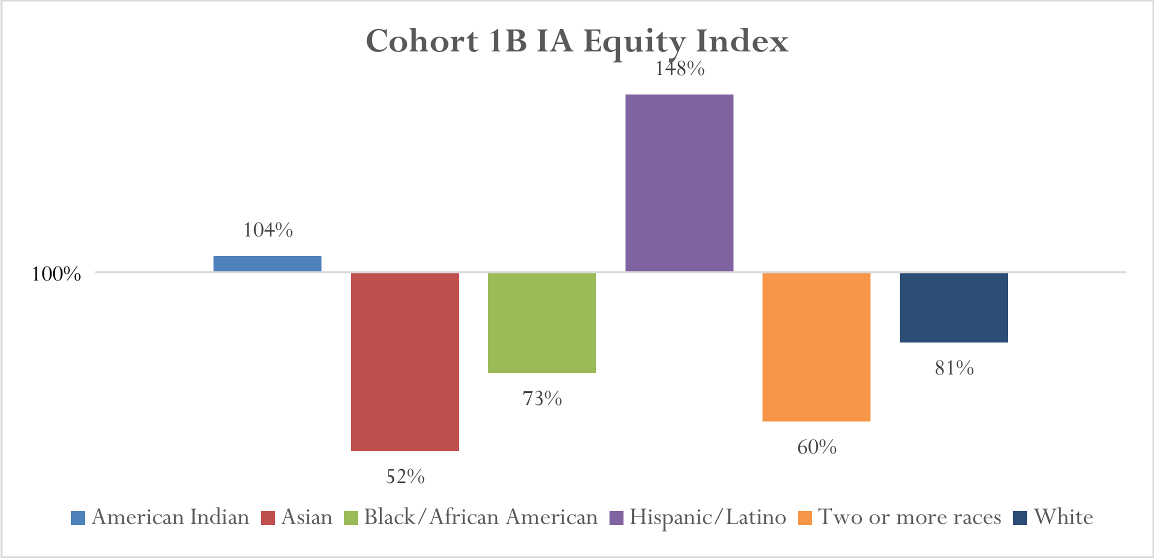

Figure 4.

Figure 5 displays an equity index of students receiving free or reduced lunch benefits. According to this analysis, Native American and Hispanic/Latino students with free or reduced lunch designations are overrepresented in IA courses for Cohort 1A, while Asian and White students, along with students identifying with two or more ethnicities, were underrepresented. Similarly, Figure 6 shows that low income Hispanic/Latino students are greatly overrepresented in Cohort 1B IA courses while low income Asian students, African American students, and students that identify with two or more ethnicities are underrepresented. When compared to the overall equity index of

IA students, it is evident that Latino/Hispanic students from low income families are overrepresented in IA courses in Cohort 1A and Cohort 1B.

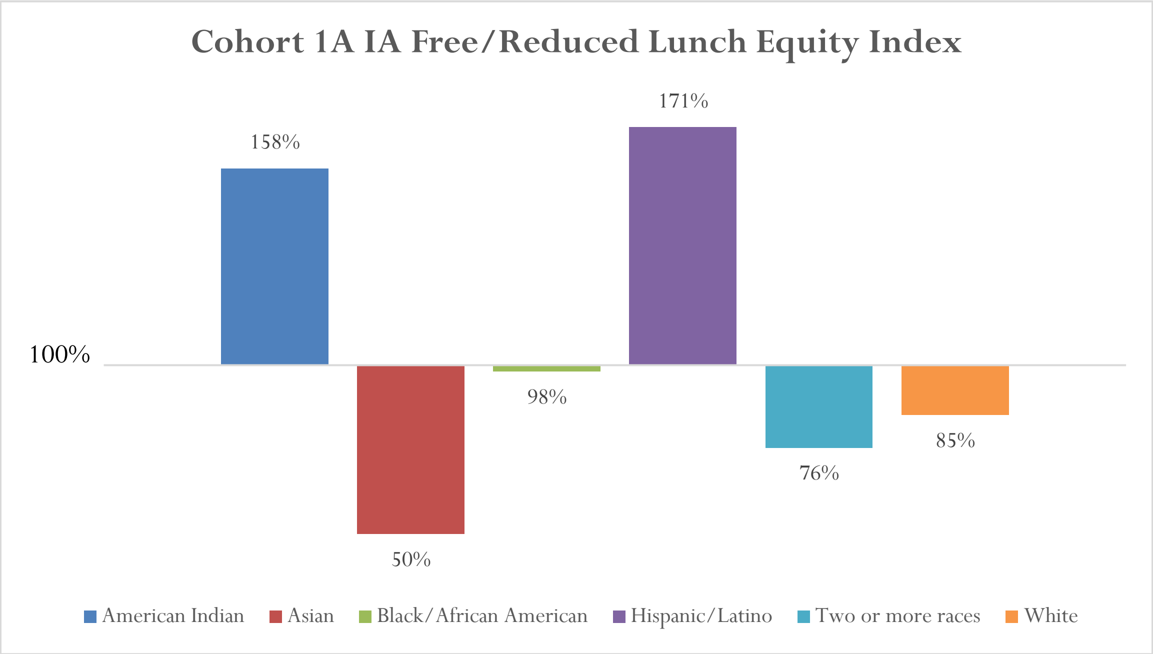

Figure 5.

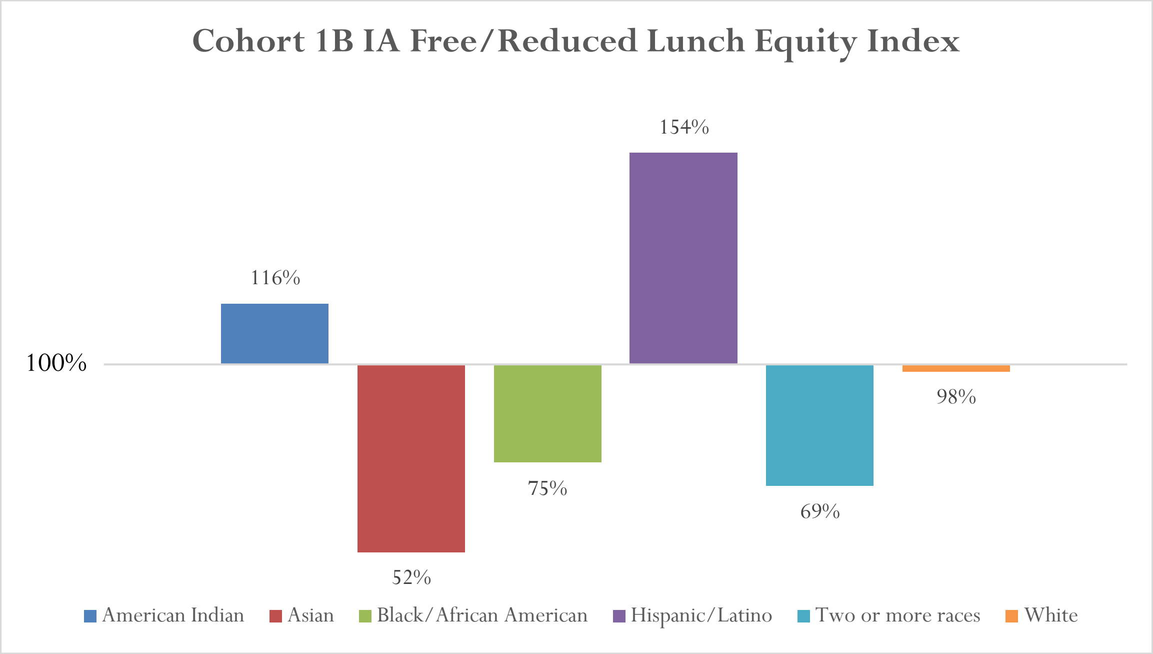

Figure 6.

Class Delivery Model. The majority of focus group participants indicated that they have implemented block schedules to accommodate the minimum guideline of 80 minutes per day. Several teachers commented that classrooms with less than 80 minutes of dedicated math time contributed to a pace that was too rigorous for students. Additionally, many teachers and students shared their beliefs that maintaining a smaller than average class size was an important aspect of fidelity implementation.

Curriculum and Instruction. Focus group participants also noted that implementation practices relating to fidelity of the teaching framework and curriculum varied. Like previous years, Cohort 1 IA teachers continued to describe how they refined and adjusted to the curriculum pacing and teaching practices. One IA teacher commented on their personal shift in teaching IA:

> The challenges were more when I first started, getting used to the curriculum, the pacing, the teaching. It was the grouping, staying back and letting students talk. My support person helped me to phrase my questions a little better. I tried not to tell the answers and let them stumble. It was me learning to back off more, and when the student asked me, [have them] reflect that to the three other students in the room.

Other teachers perceived inherent challenges within the curriculum and expectations of implementation. One stated,

> *[sic]* Agile Mind is leaving behind some students because it is hard for teachers to make adjustments to the rigid curriculum. It does not allow for much teacher creativity so if students are having problems with the curriculum the teachers can't make changes to help support their learning.

As teachers adjusted to the teaching practices and curriculum, many focus group participants noted that the spiral curriculum supported fidelity implementation. Teacher and student focus group participants shared that the variety of ways the content is introduced and reinforced over time was beneficial. They went on to state that the repetition and scaffolding of content helped to build confidence and reinforced the notion of growth mindset. One participant commented on the IA curriculum in comparison to regular Algebra:

> The spiraling of content is really incredible. The way it is woven in, it surprises me every time. It comes back around in a timely, and useful way. I feel like with IA kids, because they get to see things so many times, and repeated, they become very comfortable with it. I don't hear, "what was that again…?" In regular algebra, we have to move so quickly, not pulling everything else in. We focus in on one distinct thing. For example, for the final for the IA kids, I told them not to worry. It is the stuff we have already been doing. The

curriculum is very intertwined. With Algebra 1, the kids have to go back through all of these distinct lessons.

Cohort 2

Longitudinal implementation survey results for Cohort 2 schools are presented in Figure 7. Seven school leaders completed the survey during the 2018 administration. Over time, Cohort 2 implementation practices grew stronger in implementation fidelity, however, the change over time in average factor scores is small (i.e., .32 or less).

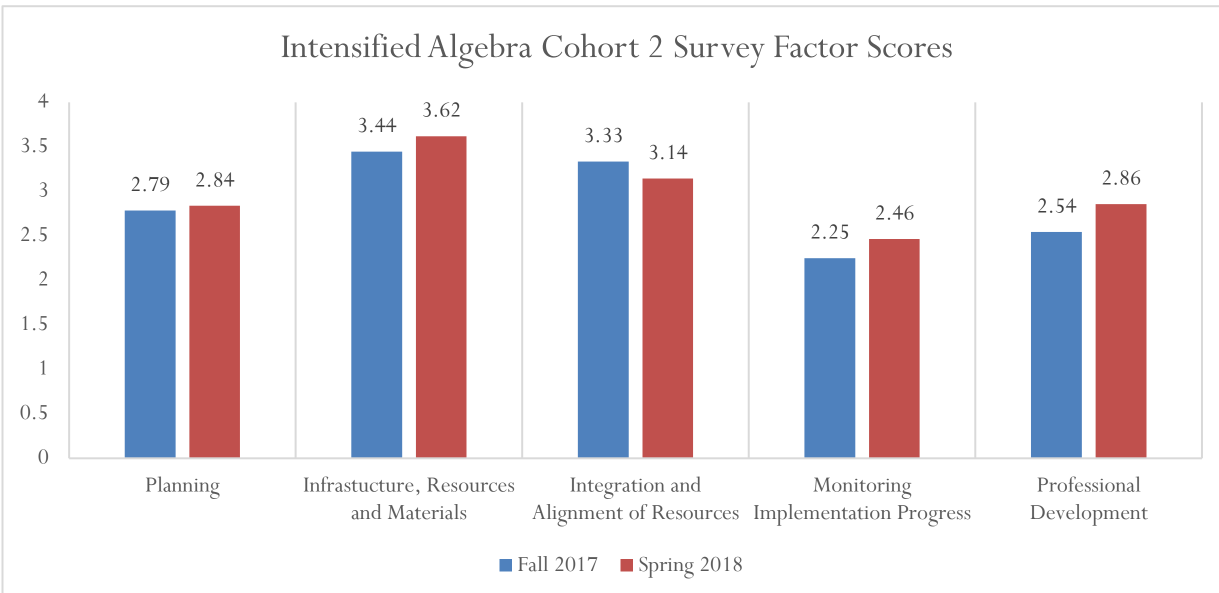

Figure 7.

Table 14. shows Cohort 2 results disaggregated by school and year. Outcomes of the survey results highlight a similar ranking of implementation strengths and weaknesses as identified by Cohort 1 schools. During 2018, the majority of school leaders that completed the survey indicated that *Monitoring of Implementation Progress* and *Professional Development* continued to be areas of weaker alignment, while the *Infrastructure, Resources and Materials,* and *Integration and Alignment of Resources* were areas of strength.

Cohort 2 2017-2018 School Level Survey Responses, by Year

Table 14

School	Year	Planning	Infrastructure, Resources, and Materials	Integration and Alignment of Resources	Monitoring Implementation Progress	Professional Development
A.C. Davis H.S.	2017	3.14	3	4	2.25	3.25
	2018	3.14	2.67	2.5	2.5	3.25
Eisenhower H.S.	2017	3.14	3.67	4	2.5	2.5
	2018	3.29	3.67	4	2	2.25
Sequim H.S.	2017	2.57	3.67	4	2.75	2.25
	2018					
Bethel H.S.	2017	2.43	3.33	4	2.25	2.5
	2018	2.71	4	3.5	2	2.75
Graham-Kapowsin H.S.	2017	2.86	3.67	1	1.5	1.75
	2018	2	3.67	1.5	2.25	2.5
Lynnwood H.S.	2017	2.57	3.33	3	2.25	3
	2018	2.57	3.67	2.5	3	2.5
Selah H.S.	2017					
	2018	2.57	3.67	4	1.5	3
Spanaway Lake H.S.	2017					
	2018	3.57	4	4	4	3.75

Student Selection. Student selection was a prominent topic during Cohort 2 focus groups. While survey results (Figure 8) indicated that the majority of schools used student achievement and/or other assessments to select IA students, less than half (44%) used teacher or counselor recommendations. Most schools used more than one selection criteria for choosing students to participate in IA.

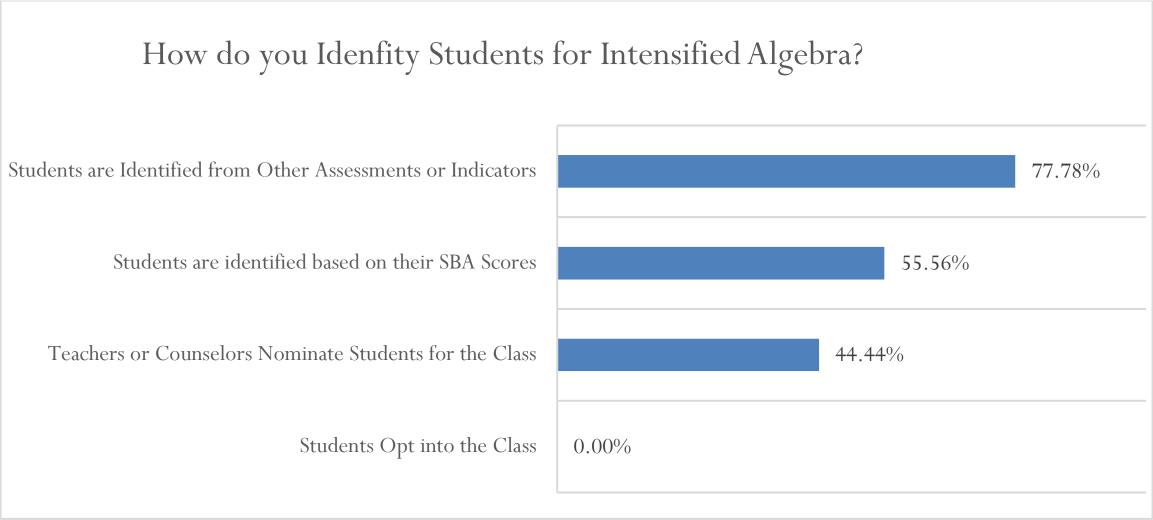

Figure 8.

Survey responses regarding student selection were confirmed through qualitative comments made by school staff, who shared their frustration with the lack of attention to teacher recommendations for selecting students. Many focus groups members wanted to see their schools incorporate teacher feedback into their selection process to increase program fidelity and success. Additionally, focus groups members described a need for further school level transparency and communication surrounding student selection. One focus group member explained the challenge of not having all stakeholders share an understanding of effective IA student selection:

> The current screening process contributed to these difficulties [IA student drop-out]. The middle school teachers might not understand what the IA program is about and recommend students who shouldn't be in the course. They need to make sure the middle school teachers, counselors, and IA teachers are all on the same page and that everyone understands the expectations.

Class Delivery Model. The majority of schools offered block schedules of at least 85 minutes for IA delivery; some schools indicated longer blocks of time, up to 120 minutes. Focus group participants also reported smaller class sizes than their regular algebra classrooms. Focus group members shared their perceptions that students required time to adjust to an extended math period. However, after a few months' students became acclimated and eventually appreciated the extra time to focus on mastering math concepts and working on homework.

Curriculum and Instruction. In regard to IA curriculum and teaching practices, focus group participants from Cohort 2 indicated less concern with the pacing of the curriculum compared to Cohort 1. Several noted the content and rigor seemed to be developmentally appropriate for their students and felt comfortable with the requirements for content delivery. One possibility for this outcome could be the amount of IA minutes per day Cohort 2 schools have dedicated within their schedules. Focus groups members indicated that the majority of their schools provide minutes within the Agile Mind (AM) recommendation of 70-90 minutes per day.

Research Question 2: What are the barriers/challenges to implementing the initiative?

The selection of IA students and teachers was a primary theme across focus groups from both Cohorts. While several school staff and administrators referenced the need to select the "right" students and teachers, the people involved in IA were seen as strengths, and barriers to implementation.

Cohort 1

Within Cohort 1, selection practices surrounding students and teachers continued to create implementation challenges. Additionally, the availability of adequate technology was also identified as a barrier during focus groups, although implementation survey results regarding infrastructure and technology were relatively strong.

Teacher Selection. As highlighted in the contextual factors section, many schools faced limited teacher hiring pools and regular staff turnover. Focus group participants consistently described the need for IA teachers to "be bought in enough to take on the course," and noted that teacher attitudes towards the curriculum and the IA students impacted program outcomes positively and negatively. One participant stated,

> Teachers are the most important part of this course. The relationship has been a key factor in success. Our teachers are so connected, and care deeply for the kids. They are compassionate, and know the trajectory of math, so where they come from, and where they are going. *[sic]* We purposefully select the teachers, just like any good set of materials. If you have a teacher that can't facilitate, they can ruin a good curriculum. You need the right teacher.

Student Selection. Similarly, Cohort 1 schools continued to struggle with the student selection process. Focus group participants described their desire for a more refined and transparent process to identify students for IA classes. Focus group members from several schools highlighted instances of miscommunication regarding student selection. One focus group member expanded on the need for increased clarity and consensus regarding student selection:

> The process is convoluted; the District looks at one's and two's (math test scores) and then some (unknown) weighted categories. Agile Mind wants students who score 2's so our District deviates from the norm. In the classroom, it seems as though those who score 1's are just too low to be able to be in this class. Because these students are not equipped for the course, it is changing the dynamic and there are lots of behavior issues. The District leads the selection by

asking middle school teachers for recommendations, but maybe there is a miscommunication between who needs to be in the class and what the class offers.

Technology. The perception of inadequate technology for IA classrooms continued to be a barrier for Cohort 1 during the 2017-2018 school year. Several focus group participants indicated that they continued to use out of date technology or did not have the capacity to provide students extended use of technology when needed. One school leader commented,

> Right now we need our technology updated. Part of the grant money was for technology or PD. We bought a cart of technology. Next year we go to one to one technology, but they are not in great shape. The teachers don't want them in the room. They are only three years old, but they are becoming a barrier in the classrooms.

Cohort 2

Barriers identified for Cohort 2 during the 2017-2018 school year closely resemble last year's Cohort 1 barriers, which suggests that some of these challenges may result from fewer years of implementation experience. While student selection was prominent across both cohorts, the challenges of IA scheduling and student perceptions of IA may be more reflective of the program's newness. Additionally, Cohort 2 focus groups described a barrier identified by Cohort 1 last year, related to reading accessibility challenges of the curriculum for EL students.

Student Selection. While selection of IA students was a challenge between both cohorts, several Cohort 2 schools specifically addressed a desire for the inclusion of teacher recommendations in the selection process. One focus group participant commented, "Student placement, we need to work on this. The teachers need to be involved in this process. We need to have a say." Another commented on the exclusion of teacher recommendations in their selection process:

> The district determined that there would be no anecdotal teacher input from 8th grade teachers for selecting students. Attendance was used as metric. We got a list of 72 students, priority 1,2,3 and placed all but a few. One hundred students given for next year. We are running three sections next year, and we agreed not to use discipline or attendance data. Despite looking at the data this year, a lot of student placements weren't great fits.

Scheduling. Regarding the perceived challenges of IA scheduling and student attitudes towards IA, focus group participants explained that the time of day IA was offered impacted student participation and attitudes. Several school staff suggested that when they provided a section of IA in the afternoon, students struggled to participate in the extended learning block. A few schools noted that they shifted their schedules to offer IA in the morning, which they felt improved their student participation in the course.

Student Beliefs. Several focus group participants shared their belief that students' negative attitudes towards IA reflected their dislike of losing an elective and the stigma that "IA is a punishment." However, school staff also noted that student perceptions often seemed to shift in a more positive direction after spending some time in the course. A few focus group members suggested that student perceptions of IA could be improved by increasing communication with students and parents regarding the purpose of the course and the anticipated outcomes of enrollment.

Course Content. A final challenge described by several focus group members involved the IA curriculum content. Specifically, as described in the 2016-2017 report, teachers noted that EL students have an added challenge in participating in IA due to the heavy reading component required by the curriculum. Some suggestions provided by IA students and teachers included increased visuals and more culturally relevant materials embedded in word problems.

Research Question 3: To what extent did the technical assistance support implementation?

The overall perceived effectiveness of technical and professional development support from AM was mixed within and between cohorts. According to the implementation survey, the professional development factor consistently scored in the mid to low range. Beneficial support included timely technical assistance, supportive on-site advisor visits, and directed PD. However, focus groups described differing levels of satisfaction concerning support accessibility and frequency. While grantors continued to provide a summer institute for IA teachers and on-site visits to IA schools during 2018, focus group participants continued to request additional opportunities for increased IA collaboration and training.

Cohort 1

Focus group members highlighted the relevancy of the summer institute training over time, specifically regarding increased opportunities to collaborate. Several shared their appreciation for the thoughtful way AM provided leveled support for novice and beginning teachers and administrators. Focus group participants also discussed the benefits and challenges of having on-site advisor visits. These on-site visits are scheduled throughout the year. One focus group participant commented on their training experience:

> There is a training with AM in the summer which has grown and changed over the last five years. It seems like AM is moving from its sales pitch tactic to experience based instruction. The district has allowed for collaboration and meetings so that we are able to go over assessments and perform long range planning. That has been very helpful!

Another focus group member also described the changing relevancy of their summer institute experience:

> I have gone to the summer institute every year. The 1st year I was totally lost. There was too much information. I had never heard of it before. The 2nd year I felt I got more out of it. I had something to build on. The 3rd year was last summer, I picked up little tid bits. My district wants me to sign up for the 4th year, I am not sure I want to go. I would like to delve into the data that we get. That would help me, and veteran teachers to use the data and find out where we need to go. Then my work could be more targeted for our population. Time for planning was helpful.

Regarding on-site advisor visits, many focus group members stated they benefit from opportunities to watch advisors model lessons, provide feedback, and troubleshoot IA challenges. One described their school's satisfaction with their AM partnership:

> Support has been good from AM, its doing what it's intended to do. It comes down to a group of kids where they're struggling in math and how do we give them what they need outside of school. AM has been great partner, they are so involved; more than past experiences and teachers speak highly of it.

Additionally, advisors helped to set up cross-school collaboration and observations. However, the extent to which schools are able to utilize the advisors and engage in cross-school observations was not consistent. One focus group member commented on the challenges they faced to make use of their advisor support:

> Advisor visits are available, but we haven't been able to use those visits. Scheduling is a challenge. Also, trying to identify what else can they help us with is hard. To be fair, AM always asks what they can do, but we kind of know what to do. Schools are in different places, so we are not sure how to use them to best support us. I would like to find a way to have our advisors meet with the teachers directly. This has been hard, because the teachers want purposeful feedback. The teachers want to know why AM comes in, are you here to collect information, or you give us independent feedback. If here to collect information, then don't give us a blanket recommendation. Also, there is no consistency in advisors which makes it difficult to build relationships.

Cohort 2

Cohort 2 focus group participants described mixed satisfaction with technology and program support from grantors. Regarding technology, focus group members indicated AM is timely and accessible through email. For example, one participant commented, "The AM emailing support is really quick to respond." Some of the technology components of the curriculum were described as challenging to work with, however. One IA teacher commented, "Online assessments are difficult. The grade books are hard to make the standard base grading they use fit into the gradebook."

While focus groups explained they are benefiting from the available opportunities, IA teachers would like extended opportunities to get feedback throughout the year in the form of additional observations, debriefs, and ongoing instructional support. One teacher described their desire to adjust the timing of support received to reflect their developing needs as an IA teacher:

> We could use more frequent materials/instructional support from Agile Mind. On-going and regular coaching days. A variety of coaching opportunities through the year (not just at the start), including on-site and regional opportunities for teachers to visit other buildings and watch instruction in other IA classrooms after they have had the opportunity to teach the curriculum in their own classrooms a few months.

Another focus group member described areas of strengths and capacity to improve in grantor support:

> Meetings with Agile math team is great, the modeling of lesson with debriefs is very effective. There are issues with the survey link on the Agile Mind website. We could use more training for administrators on how to read and use the data.

Research Question 4: What organizational changes are required for, or correlate with, successful project implementation?

Across both cohorts, the organizational changes that contributed to successful project implementation were described as those that allowed for fidelity of implementation and opportunities to extend support for students and teachers. These changes included time in the master schedule for extended math blocks, adequate technology to support all students in IA classes, and opportunities for teacher collaboration. The extent to which each cohort identified different organizational changes varied, with Cohort 1 describing a more prescriptive set of changes.

Cohort 1

Cohort 1 focus group members continued to describe the IA blocked schedule and teacher collaboration opportunities as important organizational changes influencing program implementation during the 2017- 2018 school year. Having smaller class sizes compared to traditional math classes and having the capacity of 1:1 technology for students were additional factors associated with successful IA implementation.

While the IA math block was designed to allow for extended time to learn and understand the curriculum, many students and staff indicated the extended time coupled with the smaller class size fostered an environment of community and relationship building. One student commented, “I feel more confident in math because I know what to do. I put my work up on the board for other students to see. The class size is small, and that is what makes the big difference for me." Another student commented on the benefit of a small learning environment and extended time, sharing, "We are able to take our time and finish the projects. We help each other. It's a small group. We all struggle, so no one feels dumb about it. We just ask questions."

In addition to the classroom environment, focus group participants shared their beliefs that opportunities for IA teachers to collaborate through common preps, PLCs, and dedicated time to meet with school leadership were organizational practices that clearly contributed to fidelity implementation and provided valuable opportunities for teachers to develop their skills and support improved student outcomes.

Cohort 2

Cohort 2 schools also identified several organizational changes that supported an ideal IA classroom including extended learning time, adequate technology for students, and the assistance of support staff. Several schools described their efforts to secure additional funding to support updating the technology within their IA classrooms. For example, one school district described using LAP funding to help support their student technology needs. One difference from Cohort 1 focus groups was the use of support staff. While Cohort 1 schools described a need for extra in class support, many Cohort 2 classrooms were actively supported by educational assistants or other support staff during the 2017-2018 school year. Focus group members perceived the added support during IA class time as being associated with more effective program implementation.

Finally, along with characteristics of the IA classroom environment that supported implementation, Cohort 2 focus group members noted that opportunities for extended IA collaboration time was an ongoing effective organizational change. In addition to having regular opportunities to engage in collaboration with other IA teachers, focus group participants stated that additional release time for planning and training were effective organizational changes that supported their efforts to implement IA.

Research Question 5: What role did leadership play in successful project implementation?

The extent to which school leaders facilitated and supported the IA program was viewed by both cohorts as an important aspect of program implementation. As discussed above, implementation of the IA program typically requires schools to make many several organizational changes, including adjusting the bell schedule, shifting teacher workloads, redistributing class size, and encouraging and providing training for new pedagogical practices. As a result, the extent to which leadership effectively facilitates organizational changes and provides ongoing support to IA teachers as they implement the curriculum was perceived as critical.

Cohort 1

Focus group participants continued to reiterate the importance of their administrator's capacity to facilitate the organizational changes described above by effectively managing the ongoing processes required for IA implementation. Additionally, focus group members highlighted their school leaderships' efforts to provide ongoing support through resources, encouragement, feedback, communication with parents and students, and student discipline issues. One focus group member shared, "The administration is really good at supporting the everyday processes of IA. Making sure the kids know what IA is. Right now, we are supporting the teacher who will teach IA next year by talking with the 8th grade teachers." The majority of Cohort 1 focus group members perceived their leadership as making the IA implementation a priority often from a school and district level. One school leader shared their perspective on the role of administration:

> We help with any discipline needs. We have updated the technology, and we've worked with the district technology department to make sure these classrooms are a priority. The teachers have a common planning time, rooms close together, and blocked class periods. To do this right, we couldn't ask them to try to make it fit into a period of time where it just doesn't fit.

Cohort 2

Cohort 2 focus group participants shared their perspectives on the role of their school leadership as facilitator and supporter of program implementation. One school staff member commented on the multiple processes facilitated by leadership to support IA, sharing, "We have blocked periods, weekly PLC (IA specific) planning time, common prep time for IA teachers, several 1/2 day release times for teachers to plan units, and teacher release time to meet with our AM Coach." In addition to supporting IA implementation, focus group members highlighted their leaderships' role in providing extended professional development opportunities. These extended learning opportunities, including SIOP training, extending the growth mindset training to include the entire math department, and cross district collaboration time were seen as valuable. One teacher commented on the additional professional development supported by leadership within their school and district:

> We give the math department time to meet weekly [and] time to analyze data. In addition to professional development, we sent the entire math dept. to professional development by Joe Boler on growth mindset. Our district is super supportive of professional development; we find applicable trainings.

Finally, a few focus group participants noted that their leadership showed additional support for the IA program through their active attendance in the professional development offered to teachers. IA teachers explained that they appreciated the added insights their leadership brings to classroom observations and overall understanding of the program when they attend the trainings. One teacher

commented, “They (administration) have attended all the trainings with us, so they understand the premise and the struggles.” From a leadership perspective, many indicated they are excited to have a program that targets their underachieving math students and that they strive to support the program and teachers in whatever ways they can. One school administrator stated, “I try to provide what I can, the district is very happy with the program, this is our first opportunity to put together a plan for struggling math students.”

Evidence of Impact

Research Question 6: To what extent to do student outcomes change over time?

Researchers gathered qualitative and quantitative data to identify student outcomes associated with IA course taking. Within both Cohorts, qualitative evidence from teachers, school leaders and students supported the notion that organizational change to support fidelity implementation led to student gains in growth mindset, focus, and math self-efficacy. Quantitative descriptive and achievement data is included in this report for Cohort 1A and 1B. Cohort 1A refers to students who were 9th graders in 2015-2016, while Cohort IB are students that were 9th graders in 2016-2017.

Researchers worked with the ERDC to collect data on grades, attendance, discipline, and assessment scores for IA students, comparison algebra students within cohort schools, and 9th grade math students in a matched set of comparison schools. Researchers will continue to gather and analyze longitudinal student achievement data to identify trends in math course taking and achievement over time, eventually tracking college math taking patterns and outcomes. Cohort 2 quantitative data will not be available from the ERDC until Spring 2019.

Cohort 1A. In 2015-2016 (group 1A), Cohort 1 schools had a total of 3324 9th grade students, while the Comparison schools had 2574 9th grade students with similar demographics. There were 526 Cohort 1A IA students identified in the database. Table 15 shows the breakdown of Cohort 1A schools, its comparison groups, and IA students by ethnicity. In 2016-2017, Cohort 1B consisted of 3239 total 9th grade students in grantee schools, while the Comparison schools had 2779 9th grade students with similar demographics. There were 427 Cohort 1B IA students identified in the database. Table 16 shows the breakdown of Cohort 1B schools, its comparison group, and IA students by ethnicity.

Table 15

Cohort 1A Grantee and Comparison Demographics

Ethnicity	Comparison Schools	Cohort Schools	IA Students
American Indian/Alaska Native	2.7%	3.6%	4.7%
Asian	2.4%	3.5%	1.3%
Black/African American	1.6%	2.7%	2.6%
Hispanic/Latino of any race(s)	**34.3%**	**31.8%**	**52.9%**
Native Hawaiian/Other Pacific Islander	1.2%	0.9%	0.2%
Two or more races	5.6%	6.0%	3.4%
White	**52.2%**	**51.5%**	**35.0%**

Table 16

Cohort 1B Grantee and Comparison Demographics

Ethnicity	Comparison Schools	Cohort Schools	IA Students
American Indian/Alaska Native	2.6%	3.1%	3.3%
Asian	1.8%	3.6%	1.9%
Black/African American	2.6%	2.3%	1.6%
Hispanic/Latino of any race(s)	**35.2%**	**32.3%**	**47.7%**
Native Hawaiian/Other Pacific Islander	0.8%	0.8%	0.0%
Two or more races	6.4%	6.7%	4.0%
White	**50.7%**	**51.2%**	**41.5%**

Math Success. Math grade history and course taking data was provided for this analysis. Cohort 1A student data included 9th and 10th grade results, while Cohort 1B student data included only 9th grade results. Cohort 1A 9th grade data was analyzed and presented in the Year 1 evaluation report and can be retrieved at www.bercgroup.com.

Tables 17 – 19 show the course taking patterns of both comparison schools and Cohort 1 schools. A little over half of Cohort 1A students at both the comparison schools and Cohort 1A schools took algebra during their 9th grade year. Cohort 1A schools had a much lower percentage of students taking a course lower than Algebra than comparison schools, which is compensated by a higher percentage of students taking higher level courses of Geometry and Algebra 2. The same patterns existed in Cohort 1B, which is expected as they are the same schools.

Table 17

Cohort 1A 9th Grade Course Taking Patterns, Comparison vs Cohort 1A

Course	Comparison	Cohort 1A
Lower than Algebra	24%	9%
Algebra	**53%**	**55%**
Geometry	20%	28%
Algebra 2	3%	8%

Table 18

Cohort 1A 10th Grade Course Taking Patterns, Comparison vs Cohort 1A

Course	Comparison	Cohort 1A
Lower than Algebra	7%	7%
Algebra	16%	12%
Geometry	**52%**	**44%**
Algebra 2	20%	27%
Pre-Calculus	5%	9%

Table 19

Cohort 1B 9th Grade Course Taking Patterns, Comparison vs Cohort

Course	Comparison	Cohort 1B
Lower than Algebra	23%	9%
Algebra	**56%**	**57%**
Geometry	19%	28%
Algebra 2	2%	5%

For this Interim Evaluation Report, researchers analyzed the difference between groups in the percentage of students who failed algebra in 9th grade. This sample included students enrolled in a course equivalent to algebra. Figure 9 shows the percent of students who passed algebra in 9th grade over a 4-year timeframe. These data represent unique sets of 9th grade students for each graduation class and not solely cohort data. Class of 2019 students include Cohort 1A students while Class of 2020 students include Cohort 1B students. The figure shows a steady increase in the percentage of students passing Algebra at Grantee Schools, which outperformed Comparison Schools for the first time with the Class of 2020.

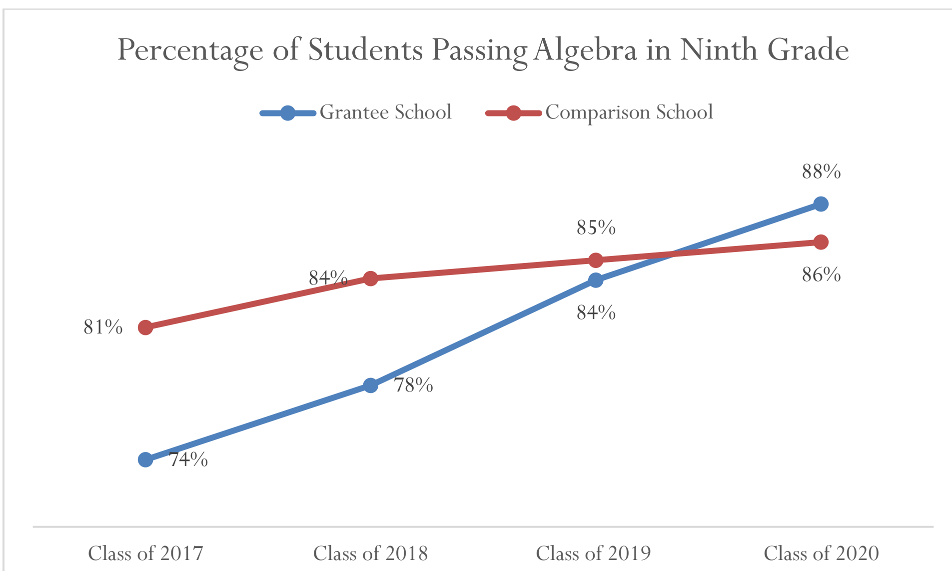

Figure 9

Researchers also analyzed 10th grade student outcomes to look at change over time. Figure 10 shows the grade distribution of 9th and 10th grade math grades by percentage for IA students and non-IA students. The analysis of IA students includes all students that took IA during their 9th grade year while the analysis of non-IA students includes all students that took algebra during their 9th grade year. All students included in the analysis also took Geometry during their 10th grade year. Students in both groups scored L1 or L2 on their 8th grade Math SBA. When comparing both sets of students, there is little difference in the overall trend of the achievement data. Smaller percentages of students earned higher grades while a larger percentage from both groups of students earned D's and F's. When analyzing IA students and non-IA students, there is no statistically significant difference in letter grade distribution for both IA/Algebra or Geometry grades.

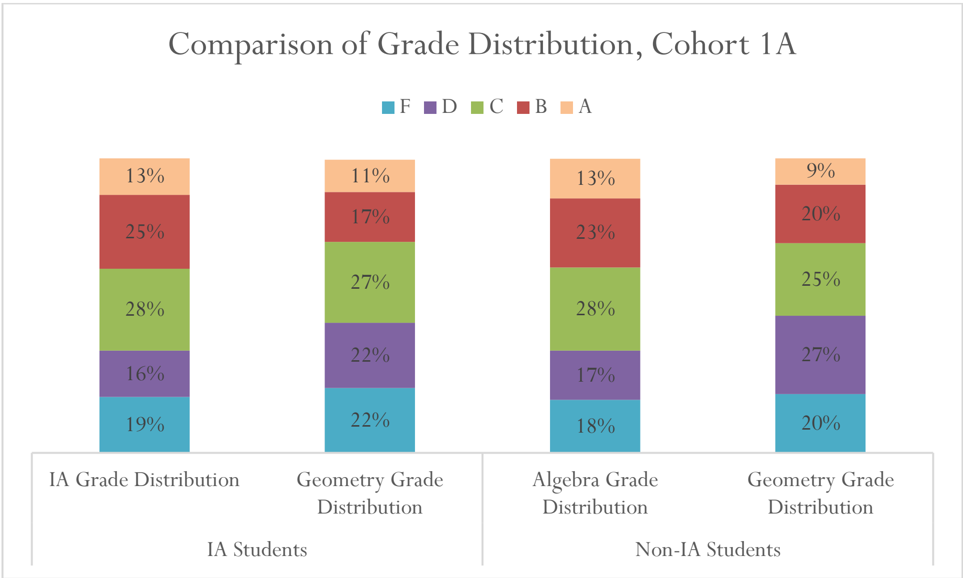

Figure 10

Figure 11 shows the average math grade for students in IA grantee and comparison schools. Math grade point averages were calculated by assigning numeric values to letter grades (i.e., A =4.0, B = 3.0, C = 2.0, D= 1.0, F = 0) based on the Washington State Standardized High School Transcript. Grantee Schools showed a steady increase in average math grade over the four year span and outperformed Comparison Schools for the Class of 2019 and 2020.

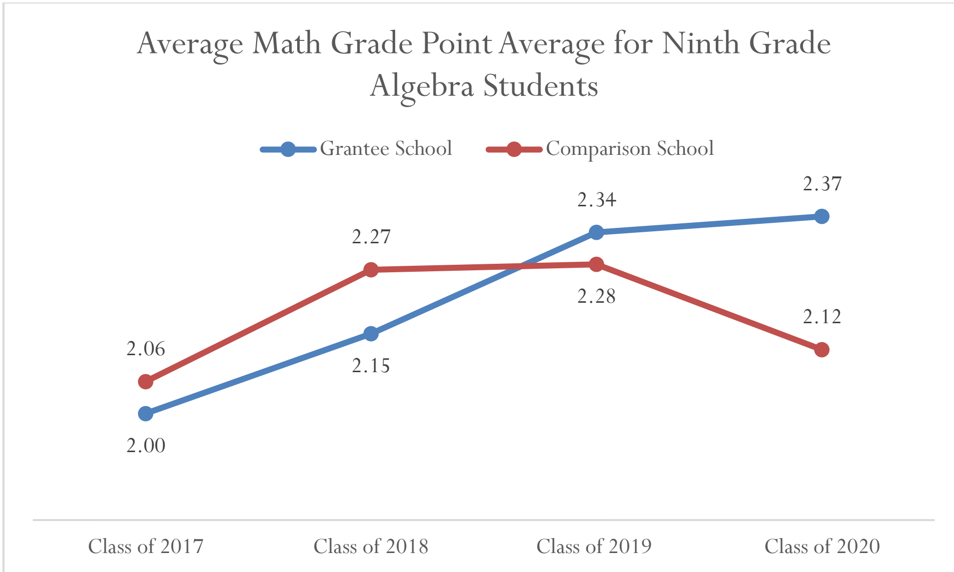

Figure 11

Math GPAs were also analyzed for students that took IA and compared to similar students who took regular algebra. Figure 12 shows a comparison of math GPA for both IA and Algebra students between 9th and 10th grade math classes. Non-IA comparison students included students that took algebra as 9th graders and scored L1 or L2 on their 8th grade Math SBA. Both groups of students had a slightly higher GPA during their 9th grade math classes than in Geometry.

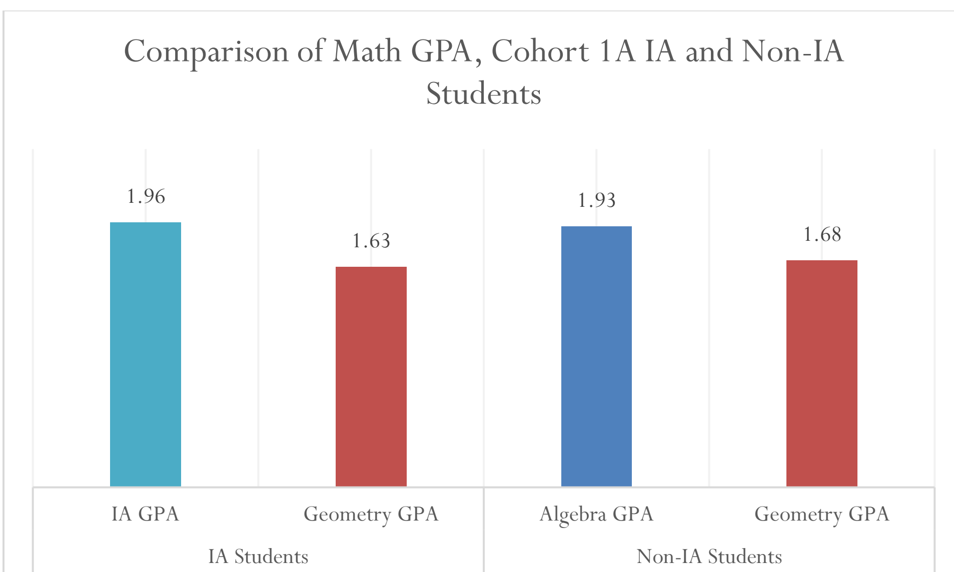

Figure 12.

Table 20 shows the number of F's Cohort 1A IA and non-IA students received in Geometry classes, disaggregated by ethnicity. To provide a better comparison, only non-IA students that earned L1 or

L2 on their 8th grade SBA were included. Figure 13 shows the percentage of each ethnic group, divided into IA and non-IA students, who received an F in Geometry. Across most ethnicities, the rate of students failing Geometry was roughly the same. Hispanic/Latino students in IA courses had a 6% lower rate of failure in Geometry while White non-IA students had an 8% lower rate of failure in Geometry.

Table 20

Cohort 1A Geometry F's IA vs Non-IA, by Ethnicity

Ethnicity	IA F's	IA Total Students	Non-IA F's	Non-IA Total Students
American Indian/Alaska Native	9	26	12	33
Asian	3	6	2	18
Black/African American	4	13	6	20
Hispanic/Latino of any race(s)	48	245	73	279
Two or more races	4	16	12	50
White	34	149	54	370

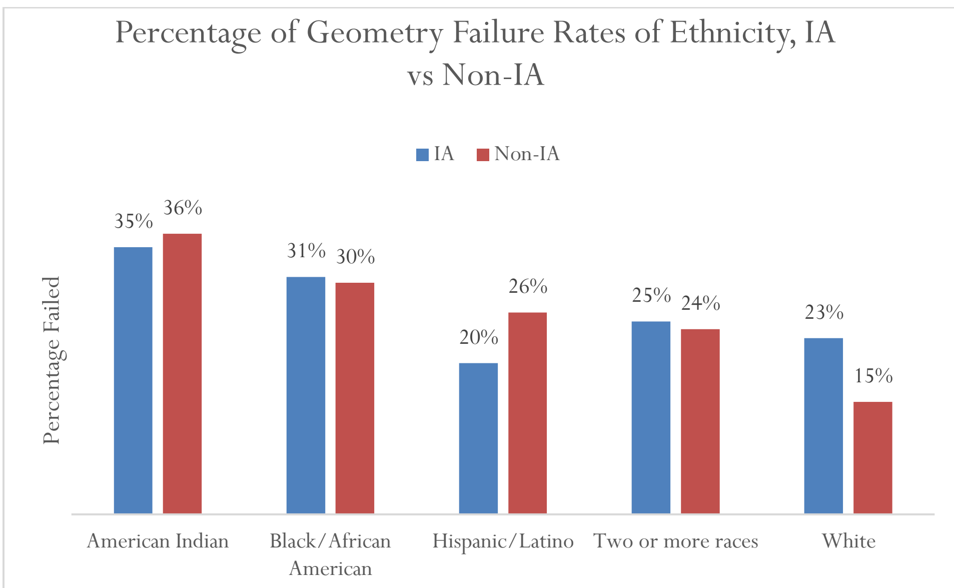

Figure 13.

Table 21 shows the percentage of Cohort 1A students failing Geometry compared to the comparison group schools. The Cohort 1A group has a slightly lower failure rate, but this difference is not statistically significant.

Table 21

Percentage of Students Failing Geometry

Comparison	Cohort 1A
12.7%	10.7%

An analysis of math class failures of IA and non-IA students by SBA level also showed that IA students had about the same chance of failing Geometry (Table 22). For students who scored L1, 1% less IA students earned an F while in L2, 4% more IA students earned an F.

Table 22

Geometry Failures IA vs Non-IA by SBA Level

SBA Level	IA	Non-IA
L1	27.3%	28.5%
L2	16.4%	12.0%

Cohort 1A geometry grade data was analyzed to assess if IA students performed better than non-IA students after being in IA for their 9th grade year. A one-way analysis of variance (ANOVA) was performed to compare the geometry grades of Cohort 1A IA students to non-IA students. A random sample of 400 non-IA students that scored L1 or L2 on the 8th grade SBA was selected from the Cohort 1A group to provide a relatively equal sample size to compare to IA students. There was no statistically significant difference in Math GPA between IA and comparison students.

Cohort 1B. Data for Cohort 1B includes demographic and descriptive data for students who took IA or Algebra as 9th graders during the 2016-2017 school year. Figure 14 shows the distribution of 9th grade math grades of Cohort 1B IA and non-IA students by percentage. All Cohort 1B IA students were included while only Cohort 1B non-IA students who scored an L1 or L2 were included to provide an accurate comparison. IA students earned a much higher proportion of A's than Algebra students but about the same proportion of D's and F's.

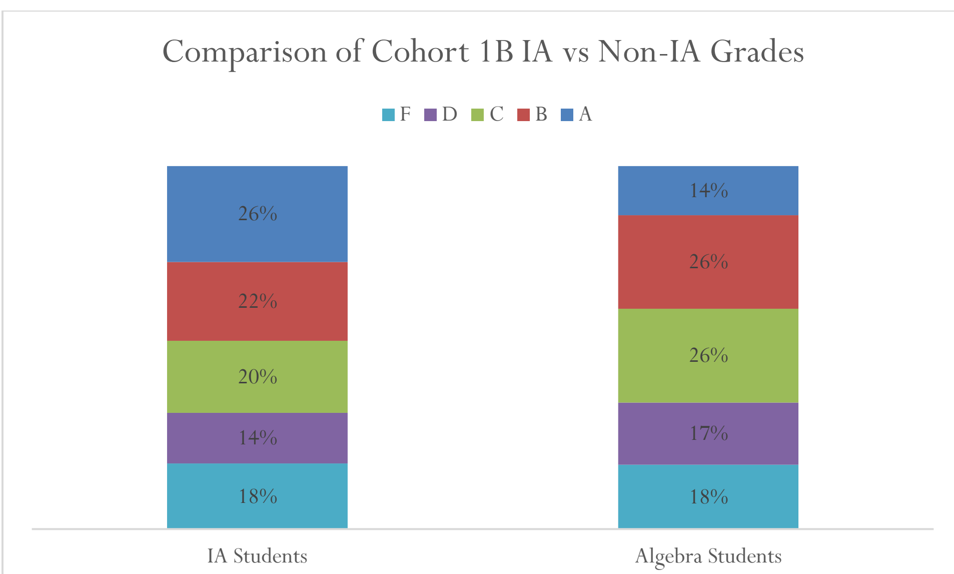

Figure 14.

Figure 15 shows a comparison of the average 9th grade Math GPA for Cohort 1B IA students and non-IA students that scored L1 or L2 on their 8th grade Math SBA. IA students earned a higher GPA of 0.20, which supports the data in Figure 13. An analysis of variance (ANOVA) was performed and showed a statistically significant difference, $F(1,638) = 2.65$, $p = .031$).

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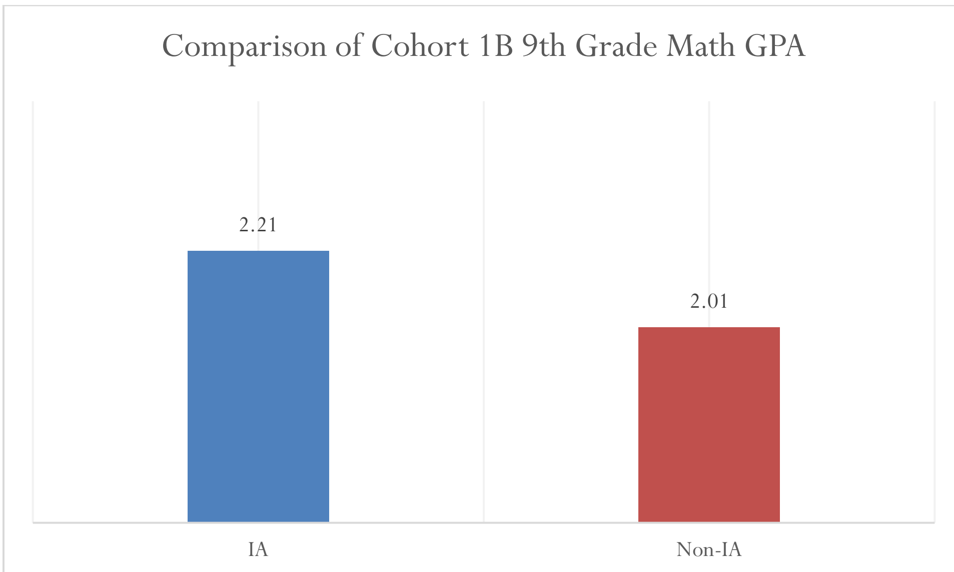


Figure 15.

Table 23 shows the number of F's Cohort 1B IA and non-IA students received in Algebra or IA classes, disaggregated by ethnicity. To provide a better comparison, only non-IA students that earned L1 or L2 on their 8th grade SBA were included. Table 24 shows the same data for comparison school students. Figure 16 shows the percentage of students in each ethnicity group that received an F by IA and non-IA students. Each ethnic group had higher rates of failure in the IA group than in the non-IA group. Though the high percentage of American Indian/Alaska Native students seems significant, it is important to remember that the sample in IA classes was small, potentially skewing the results. Hispanic/Latino and White students made up a large portion of IA and non-IA students and can therefor better be compared. The difference in Cohort 1B students receiving F's is 6 percentage points higher in Hispanic/Latino IA students than White IA students. The difference between non-IA students in those same groups is less, at 2%. It is important to note that the sample sizes between IA students and non-IA students is quite large.

Table 23

Cohort 1B 9th Grade Math F's IA vs Algebra by Ethnicity

Ethnicity	IA F's	IA Students	Algebra F's	Algebra Students	Other Math F's	Other Math Students
American Indian/Alaska Native	7	13	7	33	9	36
Asian	0	8	0	34	1	66
Black/African American	1	7	2	20	1	35
Hispanic/Latino of any race(s)	36	178	68	496	20	375
Two or more races	3	16	11	96	3	81
White	23	165	75	610	16	749

Table 24

Comparison 9th Grade Math F's Algebra vs Other Math

Ethnicity	Algebra F's	Algebra Students	Other Math F's	Other Math Students
American Indian/Alaska Native	4	18	16	55
Asian	3	19	4	42
Black/African American	5	31	6	51
Hispanic/Latino of any race(s)	78	483	142	866
Native Hawaiian/Other Pacific Islander	1	7	2	21
Two or more races	10	73	17	153
White	75	596	103	1110

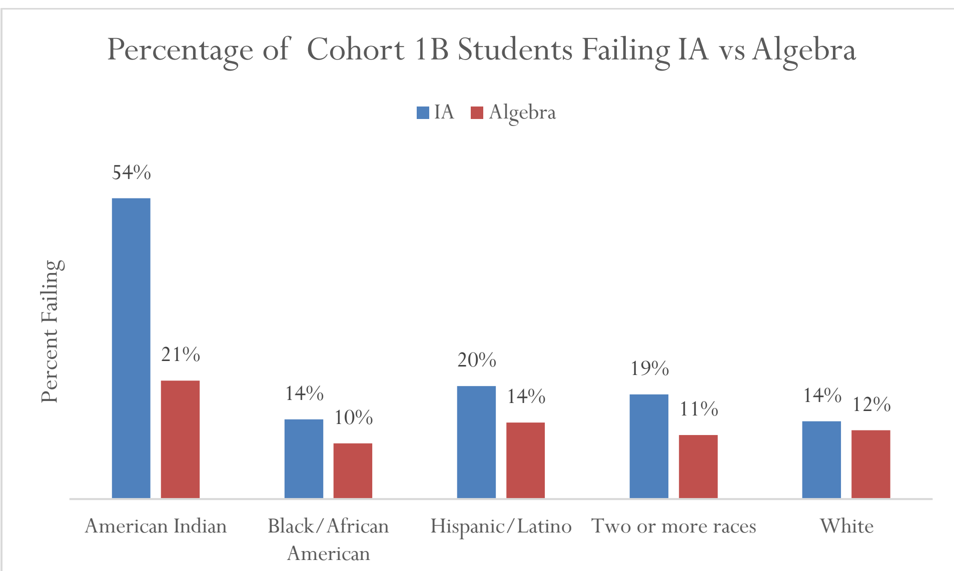


Figure 16

A one-way analysis of variance (ANOVA) was performed to compare the algebra grades of Cohort 1B IA students to non-IA students. A random sample of 350 non-IA students that scored L1 or L2 on the 8th grade SBA was selected from the Cohort 1B group to provide a relatively equal sample size to compare to IA students. There was no statistically significant difference in Math GPA between the two groups. Table 25 shows that Cohort 1B students have a slightly lower rate of failure in Algebra courses than the comparison group.

Table 25

Percentage of Students Failing Algebra

Comparison	Cohort 1B
12.6%	8.8%

Discipline. Discipline data was provided for all students in both the cohort and comparison groups. This data was further disaggregated by IA participation and ethnicity for Cohort 1A and 1B (Table 26). Approximately half of the discipline referrals given to Cohort 1A IA students were for Hispanic/Latino students. White students received 37.8% of discipline referrals. In Cohort 1B, far less Hispanic/Latino students, 35.4%, were given at least one discipline referral, while almost half of students receiving discipline referrals were White.

Table 26

Percent Students With 1 Or More Discipline Referrals, IA Cohort 1A and 1B

Ethnicity	1A Rate	1B Rate
American Indian/	4.5%	3.8%
Asian	1.1%	1.8%
Black/African American	2.2%	1.7%
Hispanic/Latino	49.7%	35.4%
Two or more races	4.5%	6.7%
White	37.8%	49.6%

Discipline data was also analyzed over time. Figures 17 and 18 show that IA, Non-IA, and comparison group students had similar rates of discipline over time. Specifically, IA and non-IA students from Cohort 1A have similar values and differences year to year, suggesting that IA students are not more or less likely to have discipline issues than non-IA students. The difference between IA and non-IA students over the 8th and 9th grade years was larger in Cohort 1B, while the difference between non-IA and comparison group students was small.

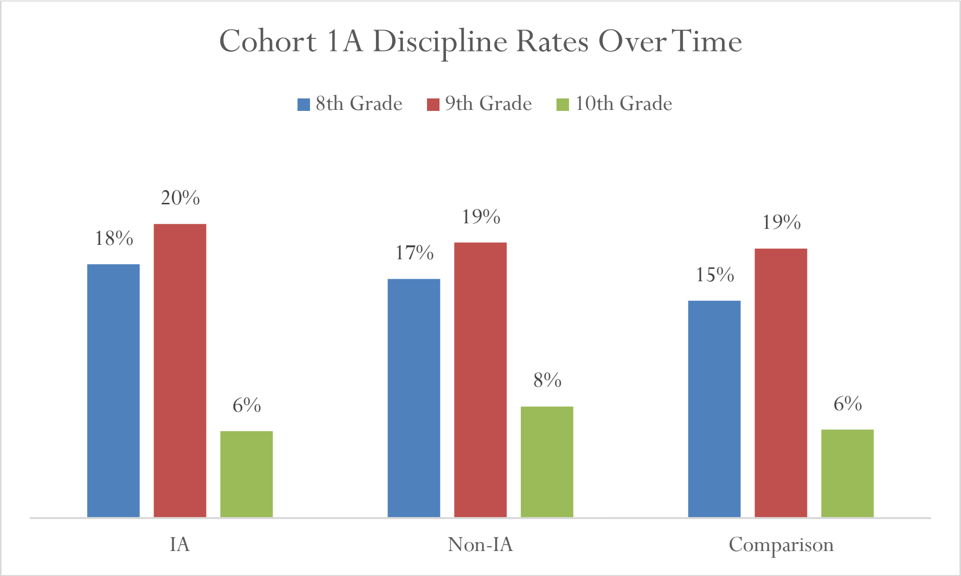


Figure 17

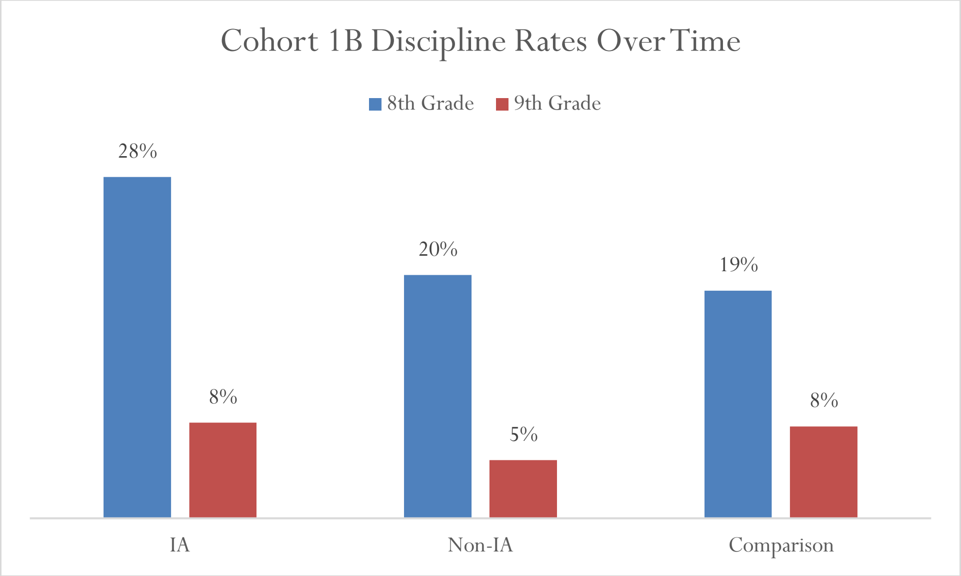


Figure 18

The data was further compared to the total population's rate of discipline by ethnic group to determine equity of discipline for students in IA. There was little variation found in how students were disciplined when broken down by ethnicity. Asian, African American, and Hispanic/Latino students were slightly underrepresented in discipline records while White and Native American students were slightly overrepresented. This shows that students in IA classes were not disproportionately disciplined based on ethnicity. Figures 19 and 20 chart these results for both Cohort 1A and Cohort 1B. It is important to note that the high indexes for students identifying as two or more races is likely attributed to the small sample sizes and not a true overrepresentation of discipline habits.

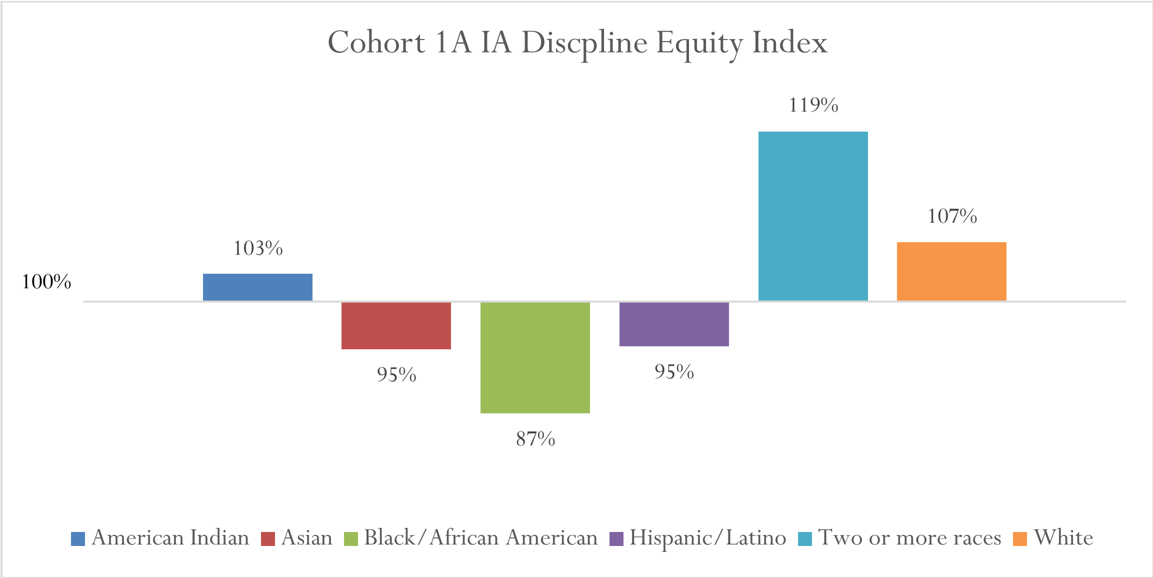


Figure 19

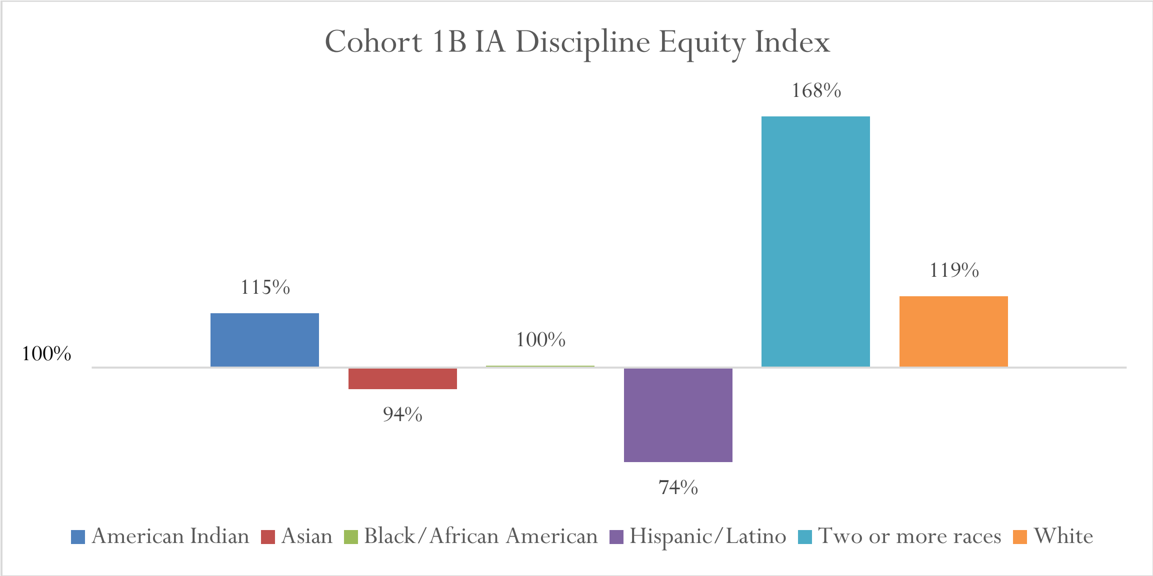


Figure 20.

Focus group members comprised of teachers, students, and school administrators described perceived student outcomes, including an increased sense of community and strengthened relationships within IA classrooms, increased student confidence and attitude towards math, changes in student approaches to learning and persistence, and increased academic performance. Many attributes of IA program implementation were described as contributing to positive student outcomes. These attributes included small class size, extended time for math, the growth mindset framework, a student-centered environment, and intentional teacher and student selection. One teacher commented on their IA students' shifts in confidence, persistence, and comprehension:

> Students are engaged in the lessons and talking about math. The emphasis on group work and projects has helped to develop this. Students don't give up anymore; they continue to try tough problems. Metacognition is happening!

One student shared a similar sentiment, stating, "I have an A-. I've never had an A- in anything. Ever. In my whole life. I understand math. I can break down a big problem and just solve it."

Further evidence of a positive shift within IA classrooms was observed during researcher classroom visits. During the spring of 2018, researchers observed sixteen Cohort 1 IA classrooms, and scored each classroom using the STAR protocol, a valid and reliable assessment tool created by The BERC Group to measure constructions contributing to Powerful Teaching and Learning[‡]. Researchers also observed twelve comparison Algebra classrooms in schools that had more than one Algebra section. Observations were scored on a 4-point scale using the STAR Classroom Observation Protocol. The score represents the extent to which the teaching and learning in the classroom are aligned with effective teaching practices called for in IA and aligned with CCSS, SBA, and TPEP. Scores range from "1 = Not at All "to "4 = Very "aligned. "Somewhat" and "Very" aligned are considered positive results.

During 2018 observations, approximately one-third of the comparison Algebra classrooms were aligned with Powerful Teaching and Learning, receiving scores of 3 or 4. In comparison, 83% of the IA classrooms observed scored in alignment with the STAR protocol. Instructional practices in IA classrooms were significantly more aligned than the comparison classrooms and in comparison, to the existing high school math STAR average (Figure 21). Additionally, when looking at observations over time, IA and comparison classrooms showed greater alignment to STAR Powerful Teaching and Learning during 2018 observations than during the prior data collection. Overall, 2018 IA classrooms were more aligned with STAR than all other groups. Further disaggregation of 2018 observation indicators at teacher and student levels is located in Appendix C. While IA classrooms demonstrated greater STAR alignment, researchers cannot claim any causality regarding the difference between IA and Algebra groups, as teacher and student assignment is not random. As described in previous sections, teacher selection is a key component of successful program implementation, particularly regarding program fidelity.

[‡] For more information on Powerful Teaching and Learning, or The STAR protocol, please visit www. Bercgroup.com, or contact the Director of Research and Evaluation, Stacy Mehlberg, at stacy@bercgroup.com

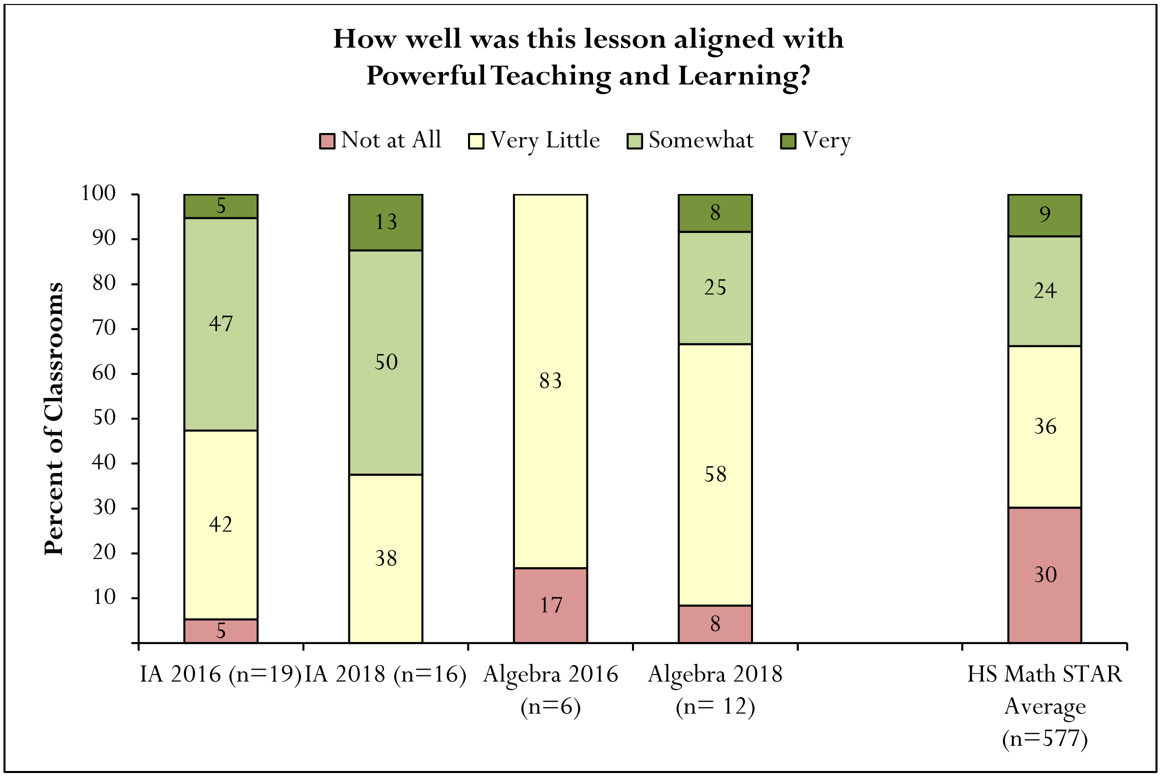


Figure 21

Many focus group members highlighted their beliefs that students were becoming more able to transfer skills and strategies learned within the IA classrooms into other subjects and contexts. For example, students described their increased confidence and interest in other subjects after experiencing success and developing effective learning habits in IA. One commented:

> I have confidence in getting my math done. I can make my brain smarter in mathematics and do better in other classes. I like math now. I can just do it and not get all worried about it. It makes me like school because I come every day and learn something. It's fun math. That's strange, but true.

Regarding academic outcomes, focus group participants shared evidence of student growth through anecdotal examples of specific students. While not all students are meeting grade level expectations, many teachers felt their students continued showing improvement over time. One teacher commented:

> Students are not afraid of math anymore. They are willing to try in other areas too, where they would have failed before. I am hoping to see a rise in test scores, but students are still below grade level. They are improving though.

Furthermore, IA teachers generally indicated students who passed the class, which they reported as the majority of their students, would be ready for Geometry. Several teachers indicated their belief that IA students would be more prepared than their peers who took a regular Algebra class. One focus group participant commented, “The roughly half that received the course will do better than average Algebra students, their problem-solving abilities will be better than the regular students.” Another teacher commented on their IA student achievement:

> The IA students at *[sic]* are outperforming the traditional Algebra students. Students catch up on their skills missed in previous years in IA, allowing them to master Algebra I at a faster pace. In IA, the blocked period allows us more time to go deeper. I feel like I can do a better job with my instruction. There is a growth mindset we teach with intentionality. What a difference that makes.

Finally, some focus group members stated that as a result of the perceived impact of IA they will need to supplement with higher level coursework in the future to accommodate the advancing capacity of their students:

> I predict that we will have to expand the course offerings in our math department as a direct result of IA, more UW courses, and Pre-Calc courses. We’ll need more higher-level math because our kids are going to demand it. They’ll be ready for it. The STEM programs are benefiting as students gain more capability and confidence in math. Attendance rates are up- we’ve been tracking them. Discipline is down as students aren’t so stressed in their learning environment. We are closing the achievement gap one IA student at a time.

Cohort 2. Similar to perceptions of Cohort 1 student outcomes, Cohort 2 focus group participants also reinforced the positive shifts they were seeing in IA students. Several school staff felt they were seeing improved relationships with peers and teachers, increased confidence in academics, increased academic self-efficacy, and increased academic performance. Focus group members highlighted their belief that the IA learning environment helped students to develop relationships and build trust among peers and teachers. One student commented, “I like the time, it makes me feel better knowing that I have a better teacher, that I feel better asking for help. We bonded with the teacher, she’s our homework helper, she will take you step by step.” Additionally, one teacher described their IA classroom, “Over the year I have seen increased relationships and community.”

The level of student confidence in math and increased capacity to learn has appeared to shift for IA students in Cohort 2. One teacher commented on the changing attitudes and confidence of IA students:

> Early on in the year it was getting students to talk about math, but now they engage in that day to day. Over the course of the year, I think the biggest and most positive changes can be seen in students' attitudes about math itself. The students in IA have typically seen little success in math, and ask them, they will tell you that math is ok now. There has been a dramatic attitude shift about math in those classes. And of course, an overall trend in data showing student growth.

Similarly, one student shared:

> I'm more successful; I know more ways to solve problems now. I used to see a math problem, and not even try it. Now, I try it. Sometimes I still get stuck, but most of the time, I don't. I've learned a lot of math this year, like more math than all of middle school combined.

The capacity for students in IA to apply and engage in new learning techniques was another clear outcome described by focus group participants. One teacher commented on how student learning strategies are increasing student comprehension:

> My IA students are grasping concepts faster than my regular Algebra students at this point. I believe this is because they "get" the learning process. They know how to learn. My students do not need to reference their notes; they truly understand the material.

Additionally, one student described their learning process in IA, sharing, "We learn to talk about math, and then we talk about it, a lot."

Similar to Cohort 1, there is anecdotal and observational evidence of a positive shift within IA classrooms. Compared to baseline data from 2017 and comparison Algebra classrooms during 2018, IA classrooms show stronger alignment with Powerful Teaching and Learning. During the spring of 2018, researchers observed twenty-seven IA classrooms. In addition, researchers observed twenty-two comparison Algebra classrooms in schools that had more than one Algebra section. Observations were scored on a 4-point scale using the STAR Classroom Observation Protocol. The score represents the extent to which the teaching and learning in the classroom are aligned with effective teaching practices called for in IA and aligned with CCSS, SBA, and TPEP. Scores range from "1 = Not at All "to "4 = Very "aligned. "Somewhat" and "Very" aligned are considered positive results.

During 2018 observations, approximately one-fifth (18%) of the comparison Algebra classrooms received an overall positive rating of 3 or 4. In contrast, 48% of the IA classrooms observed received a score of 3 or 4. Instructional practices in IA classrooms were significantly more aligned than the comparison classrooms and the existing high school math STAR average (Figure 22).

Overall, 2018 IA classrooms were more aligned with STAR than all other groups. Further disaggregation of 2018 observation indicators at teacher and student levels is located in Appendix C. While IA classrooms showed greater STAR alignment, researchers could not suggest a causal relationship between IA and Algebra groups to the IA curriculum, as teacher and student assignment is not random. Furthermore, one key aspect of program implementation fidelity across cohorts is teacher selection.

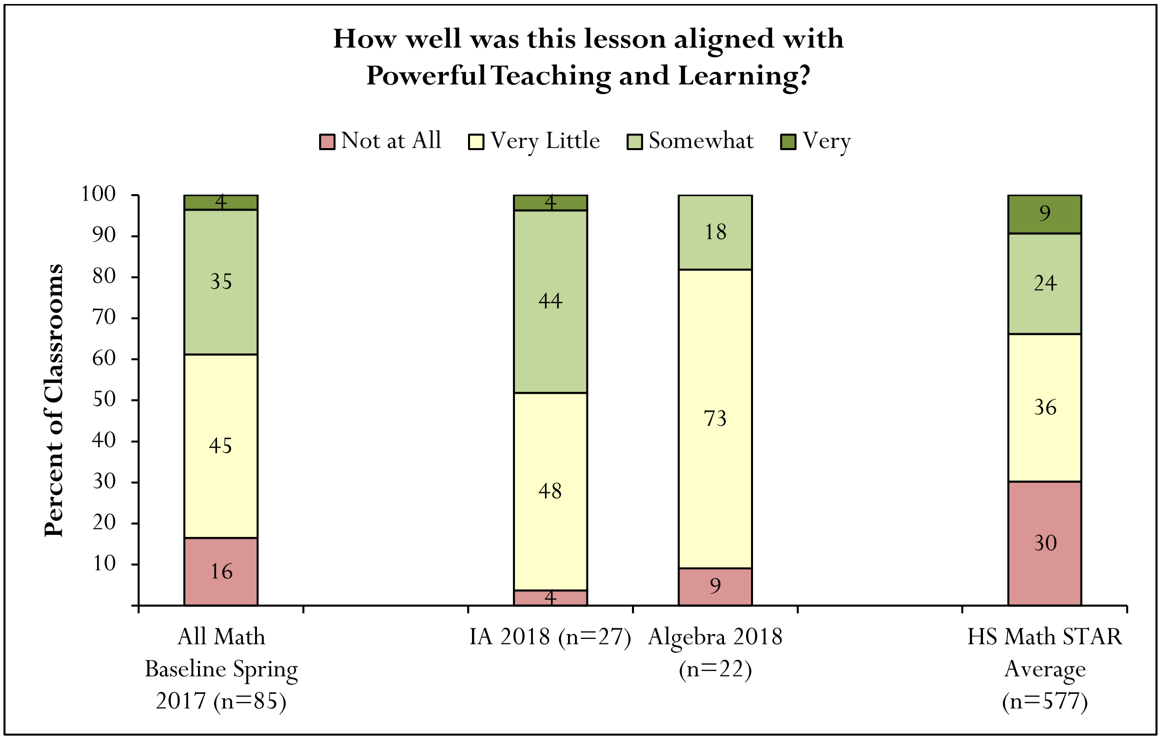


Figure 22.

Cohort 2 teachers shared their beliefs that students are showing academic improvements in addition to developing relationships, attitudes, and effective learning strategies. Many student and teacher focus group participants shared their perceptions of students "catching up" in math compared to previous years and even surpassing their regular algebra peers. One student commented,

> It's more engaging, so we learn more. This class has material that is the same or even harder than regular Algebra 1 and we are doing it. We'll be ready for Geometry. Only, we'll actually understand the math we learned, and the students in the other classes won't. I know this because I talk to my friends in regular Algebra 1, and they are totally lost.

Another IA student commented on their perception of their own academic growth:

> We learn more than we did in other math classes. You learn more than one way to solve problems. We're catching up on math we missed in other years along with the new math from this year. We are actually learning math, not just sitting in math.

Although quantitative data is not yet available to triangulate these qualitative findings, Cohort 2 IA teachers reported that their own data tracking was showing that student grades were improving. These outcome data will be provided in an additional report once available from the ERDC in Spring 2019.

Research Question 7: To what extent do multiple initiatives support each other?

This question will be answered once data from the Dana Center is available.

Research Question 8: What are the promising practices?

During 2018, several promising practices described in the 2016-2017 report were reinforced and, in some cases, expanded upon. These included opportunities for IA teachers to observe, learn, and collaborate with peers and program leaders, and increased student self-efficacy in math. Commonalities across cohorts included the success of feedback opportunities and the capacity for the IA framework and strategies to carry over into other classes. One strong promising practice within Cohort 1 was evidence of complete leadership support for IA, while Cohort 2 identified the benefits of having additional support staff within IA classrooms.

Cohort 1. The practice of IA teachers receiving feedback in a variety of ways continued to be identified as a strength over time. Specifically, focus group members commented on the benefits of observing their peers within and across schools in addition to AM advisors modeling IA lessons. Opportunities to observe lessons provided IA teachers with new strategies and processes for teaching material within their classrooms. Intensified Algebra teachers found the observations and opportunities for personal feedback particularly helpful as many are not just adjusting to the material content but also a new teaching style.

Habits and Strategies. Across focus groups, teachers, students, and administrators described instances of positive carryover from IA classrooms into other classrooms. Student focus group participants indicated that they are actively drawing on learning strategies from IA. These strategies are helping them to build confidence in other classes. Several students stated that they received their first "A" in IA and as a result, they are more efficacious in other subject areas. One focus group member commented, "The biggest success is kids that struggled in math are participating and engaged. And that they have the confidence and skills for geometry. They develop confidence as learners that extends to all subjects." Teacher focus group participants also indicated they are generalizing teaching and learning strategies and habits from their IA experiences. Many IA teachers appreciated the growth mindset framework and student-centered approach to teaching IA and are actively incorporating these principles into their non-IA classrooms and discussions with other faculty.

Leadership Support. Another promising practice identified during Cohort 1 focus groups was the value of full leadership support for IA implementation. Focus group members continually reiterated their belief that if leadership ensured IA teachers were given adequate resources, collaboration time, and made organizational changes to accommodate IA, then the capacity for effective implementation and positive outcomes increased.

Cohort 2. Peer observations and the generalizability of IA teaching and learning strategies were also promising practices within Cohort 2. Additionally, IA teachers shared that their advisor visits were helpful in building capacity to teach the AYD curriculum with fidelity. One focus group member commented on their school's collaborative efforts:

> We get together as the IA teachers once a month, paid for after school. We got two full days with a trainer, she co-taught with us. It was helpful to see her have the same challenges keeping up with material, it taught me to turn off my slides.

Generalizability of Strategies. The action and capacity of students and teachers transferring their learning within IA to other subjects and contexts was described as a promising practice for both cohorts. Students described their changed attitudes towards learning and increased confidence that extended beyond their math successes. One focus group member commented on shifts in students, teacher attitudes, and the capacity to extent IA related outcomes:

> IA has a higher passing rate for the course than traditional Algebra. Student participation and confidence in math skills have increased, and teacher attitudes. Some students in IA are actually outperforming their peers who are in regular Algebra 1. The hope is that this new attitude for learning is transferring across the board to their other classes too.

Instructional Growth Mindset. Several IA teachers also remarked on the benefits of changing their teaching framework and approach to student learning as a result of IA. One IA teacher reflected, "I like that IA has made me a better teacher, the curriculum allows me to add the emotional and social elements." Additionally, several focus group members described the anticipated benefits of incorporating the teaching and learning framework within IA (i.e., growth mindset, student-centered) to the rest of the staff and students. For example, one school actively started to integrate the growth mindset framework beyond their IA teachers, by providing all math teachers professional development on the topic.

In Class Support. In addition to increased opportunities for teachers to observe peers, and the generalizability of growth mindset and instructional strategies, many Cohort 2 focus group participants shared that they benefited from having support staff within their IA classrooms during 2018. Almost half of Cohort 2 schools stated they had support staff in their IA classrooms, while the other half spoke about their desire to have additional support in their classrooms. The capacity to manage IA student needs was identified as a contextual factor. Classrooms with additional personnel to help accommodate and support student needs reported this practice as adding value. One IA teacher commented on the benefit of additional classroom support, noting, “Paraeducators help a TON.” While it is not clear why this practice was more prominent in Cohort 2 IA classrooms, IA teachers who received this classroom assistance included this support as an asset to building their capacity to implement IA.

Research Question 9: To what extent are the changes sustainable?

Regarding program sustainability, both cohorts stated obtaining financial support beyond the grant was the deciding factor in continued implementation. Overall, most schools within the cohorts see a benefit to continuing IA program implementation and have begun to consider what an expanded IA school framework would include.

Cohort 1. Focus group members explained that they continue to experience positive outcomes with IA implementation and have not identified any alternative plans that would address their student needs more effectively. One commented,

> IA seems to work for 75% of kids. I like IA, we keep searching for the right thing for students struggling and IA seems to work for lot of different students. Right now it is the best solution for what we know.

As Cohort 1 focus group participants described their capacity to sustain IA, the need to identify adequate funding and expand the sequence was highlighted. While Cohort 1 schools are drawing closer to grant cycle completion, alternative sources for financial support are needed. Focus group members from smaller schools described an added hardship to obtain financial resources to sustain the program due to smaller class size and reoccurring curriculum costs. One commented, “Once we lose this grant, the program will be difficult for us to maintain no matter how great it is.”

Additionally, perceptions of program sustainability by focus group members included a desire to expand the sequence and support for students transitioning into and out of IA. Some focus group members indicated this transition would be best supported by expanding pieces of the IA framework into all math classes (e.g., growth mindset, problem solving strategies). One commented,

> Think about school districts that have adopted 6-10 Agile Mind curriculum. It would be good if they put the growth mindset into all of the grades and all of the levels, so it would be good to start in grade 6- then it would build, and we would have more of that tenacity that we are looking for. To stick with the math problem. They just grab a multiple choice answer, it is not that the kids don't know how to do it, it is the tenacity piece. On my end, IA is laid out really well, I would like to see the card match activities incorporated into additional classes, especially for my middle schools. In the classes that aren't intensified, the assessments don't match up with the work the kids did in class. The tests aren't always aligned.

Another commented on the capacity to increase IA sustainability through stronger math department alignment between IA and non-IA teachers:

> We struggled this year to have collaborative teams across all algebra teachers. The pacing and language are so different, so PLC time together is a challenge. We need some alignment to traditional algebra so that teachers at the school could still meet at teams and discuss, making the time useful and purposeful.

Cohort 2. Cohort 2 schools also indicated they are seeing benefits of the IA program and that it meets their needs better than previous solutions. One school indicated they will have a continued need for IA as "there is a growing population of students who meet the criteria for inclusion in IA classes." Additionally, several focus group participants described their plans to extend the IA curriculum sequence in a variety of ways to continue supporting their students. One participant commented on their anticipated benefits of adding additional aligned coursework, sharing, "We will be adding Agile Mind Geometry next year to provide consistency and hopefully sustain the growth we are currently seeing." Another focus group member highlighted their school's plan to extend both their IA sequence and bring support into English for IA students:

> We will have two sections of IA and a new IG section for next year. We plan to teach double geometry, some students struggle to keep up with geometry, 20 of our 30 IA kids in IA will take IG. I will be team teaching with English, we have a lot students who struggle in both math and English, we will team teach, to make sure that it works all around, we are trying to proactively take care of it.

Finally, similar to Cohort 1 comments, focus group members in Cohort 2 reiterated the anticipated benefit of exposing all math students to the consistent pedagogical framework within IA. One commented, "Our entire math team needs to get on board with the growth mindset training. It would be so powerful for all of *[sic]* math students." This exposure would help to support sustainability of the program.

Recommendations

Overall program implementation recommendations continue to encourage increasing capacity for frequent collaboration opportunities within and between schools. Additionally, recommendations to consider include extending the scope of professional development offered to include support for student behaviors, further refining IA student selection criteria, and intentional integration efforts of IA program elements to support school alignment and ease student transition.

Consider extending feedback. As a result of the identified benefits of sharing and receiving feedback through peer observations, PLCs, shared planning time, and coaching support, IA teachers want to continue building on these supports through greater consistency, or the expansion of their current collaboration activities. For example, small schools indicated they would benefit from opportunities to collaborate with IA teachers across schools, when they are the only IA teacher at their school. Opportunities for IA teachers to observe their peers across districts was highlighted as a beneficial way to extend their capacity to receive and provide feedback. Specifically surrounding the advisor support, several focus group participants described a need for more consistent opportunities to receive feedback, particularly for new IA teachers. One commented,

> On-going training outside of the summer institute. It needs to loop back for new teachers. More than two coaching days a year would be great. Three or four days would be much better. Maybe two days in the Fall, and one day each in Winter/Spring. On-going site visits to watch other teachers teach later in the year would be awesome.

Consider expanding professional development opportunities. Teachers identified student needs and behaviors as one barrier to IA implementation. Although there is no quantitative evidence of increased discipline incidents in IA classrooms, it is important for staff and students to feel safe and engaged in a positive learning environment. One Agile Mind program leader shared, "In addition to SEL supports, we approach behavioral management through engagement, advocating that engaged students are less likely to disrupt their peers." Many focus group participants indicated that targeted professional development focusing on how to support their IA student population needs would provide a benefit to their classroom management challenges.

Continue to refine IA student selection criteria. One ongoing barrier to IA implementation is the student selection process. While AM has recommended a set of criteria for student selection, schools have developed their specific selection practices to encompass a broad range of criteria which has resulted in varying degrees of success. Two specific challenges were identified within student selection. The first challenge included a lack of clarity across stakeholders concerning what combination of criteria is used. The second challenge, most prominently identified among Cohort 2 schools, was the perceived lack of teacher recommendations included in the student selection process. Across the cohorts, implementation survey results indicated that monitoring implementation progress was an area of weakness. We recommend school districts evaluate their student selection criteria on an ongoing basis, include all relevant stakeholders in the process, and communicate the selection rationale across the school district to promote transparency and support for IA student selection.

Identify strategies to extend the scope of IA within schools. While cohorts are at different stages of program implementation, the desire to create an extended instructional framework around IA was identified by both cohorts. Specifically, regarding efforts to increase sustainability, we recommend school districts consider way to extend their current IA scope. Several schools are already identifying and implementing strategies to extend and support the positive outcomes they associate with the IA program (e.g., extend growth mindset training to all math department, build in additional AM curriculum).

BRIDGE TO COLLEGE

Math and English/Language Arts

The State Board for Community and Technical Colleges created and implemented senior year college readiness math and English courses[§] that are designed to align with the Common Core State Standards and with pre-college courses in higher education. The courses were developed collaboratively with high school and college faculties. Seniors who complete the transition courses will be able to move directly to college level math and English courses in college without remediation or additional placement testing.

Twenty-five schools piloted the Senior Year Transition Courses during the 2014-2015 school year, with additional sites added during each year of implementation. A complete list of current schools offering Bridge to College (BtC) courses is included in Appendix B. The goal of the strategy is to improve the college readiness of students graduating high school, to develop college to school partnerships, to reinforce transcript placement efforts with the smarter balanced assessment, and to provide rigorous alternatives to algebra 2 as the third-year math course. Researchers gathered data from the ERDC to track longitudinal math and English course taking and academic outcomes for Bridge to College students.[**]

[§] Senior transition English courses were included in the Math Initiative evaluation as a courtesy to the State Board of Community and Technical Colleges so they could receive evaluation feedback on both programs.

[**] For more information on Bridge to College, please contact The BERC Group for access to the March 2018 Bridge to College Progress Report, stacy@bercgroup.com

Evidence of Impact

Researchers worked with the ERDC to collect quantitative data on BtC student outcomes. Data for the 2016-2017 school year was available for analysis at the time of this report. For Cohort 1 BtC students (12th graders in 2015-2016), researchers were able to track and report on progress into students' first year of college. For students that were 12th graders in 2016-2017 (identified as Cohort 2), researchers analyzed BtC course grades and high school outcomes. For each year of data reporting, BERC researchers will use the most available ERDC data for analysis and will update the report when more data is made available.

Cohort 1

Demographics. Figure 23 shows a comparison of the demographics of Bridge to College students and entire school population by ethnicity. Overall, Bridge to College courses evenly represent the overall school population.

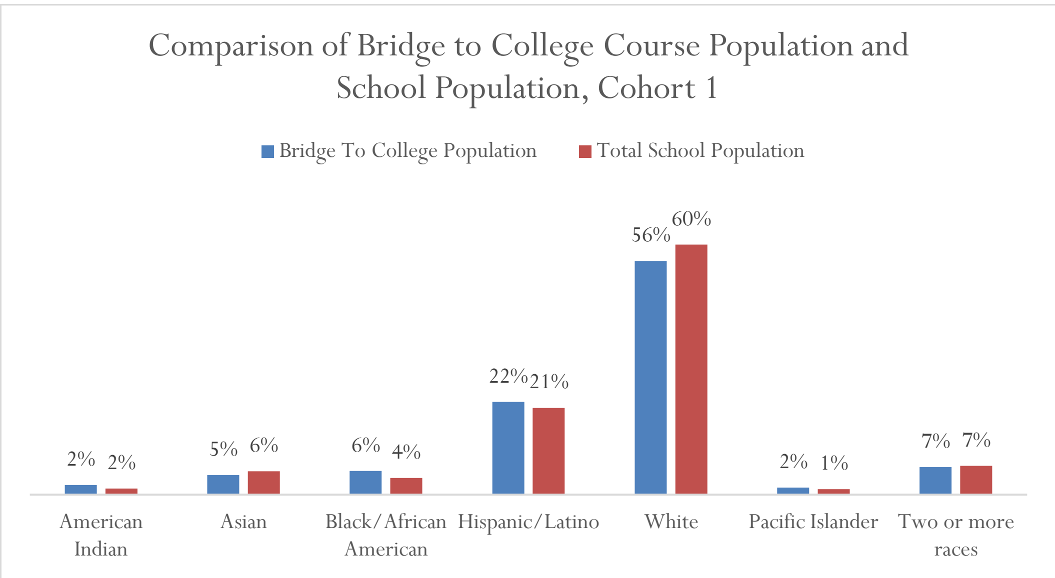


Figure 23

College Attendance. Cohort 1 students were defined as students who were 12th graders in 2015-2016. Demographic and 12th grade academic performance data were reported in the Year 1 evaluation report[††]. There were 1,263 students from Cohort 1 enrolled in Bridge to College Math and 1,379 students enrolled in Bridge to College English. Researchers analyzed the college attendance and grade records for Cohort 1 students and comparison students. Table 27 and Figure 24 show the college attendance rate of Bridge students who earned a "B or better" compared to the

[††] For information, or to review the Year 1 Evaluation report, please contact Stacy Mehlberg, Director of Research and Evaluation with The Berc Group, stacy@bercgroup.com

overall college attendance rates of Washington State students. Both 4-year college attendance and community and technical college (CtC) rates were included. The 4-year college attendance rate was similar between Bridge students and the Washington State average while Bridge students who earned a B or higher in English or Math attended CtC's at a higher rate.

Table 27

Percent of Students attending college, by college type and course designation

College Type	Bridge English B or Better	Bridge Math B or Better	Washington
4-year colleges All Students	19.2%	19.9%	20.2%
CtCs All Students	26.8%	33.9%	20.9%

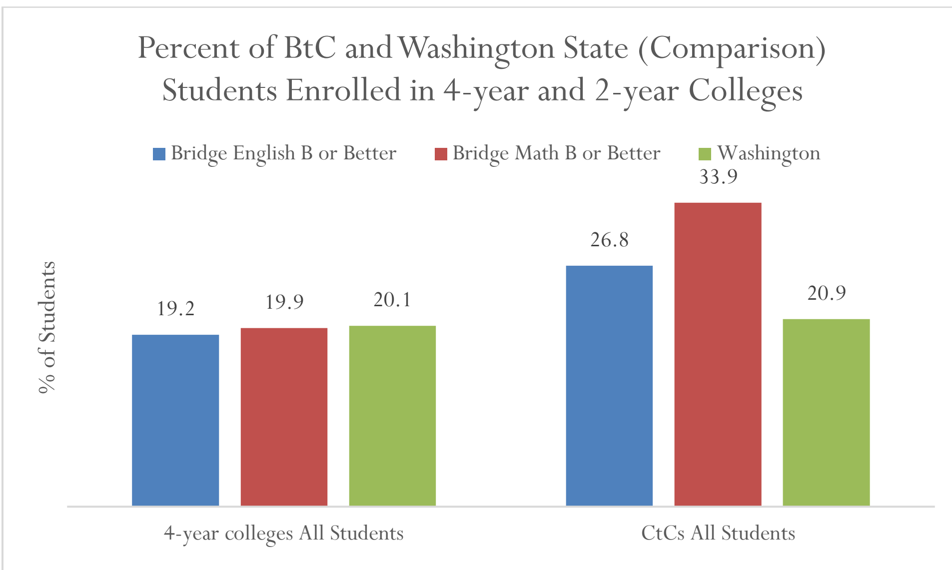


Figure 24

Tables 28 and 29 show the percent of postsecondary enrollment for Bridge English and Math students who earned a B or better compared to the Washington State averages by SBA level. Students who scored L1 and L2 and earned a B or better in either Bridge course tend to have higher rates of both CTC and university enrollment when compared to the state average.

Table 28

Percent CTC Enrollment by SBA Performance Level

SBA Level	Bridge English B or Better	Bridge Math B or Better	Washington
L1	3.8%	14.4%	11.0%

L2	21.4%	24.5%	12.2%
L3	14.6%	6.2%	13.6%
L4	6.7%	0.3%	5.9%

Table 29

Percent University Enrollment by SBA Performance Level

SBA Level	Bridge English B or Better	Bridge Math B or Better	Washington
L1	3.0%	8.8%	4.4%
L2	8.6%	15.0%	7.5%
L3	17.2%	4.6%	13.6%
L4	4.9%	1.0%	11.8%

Researchers disaggregated postsecondary enrollment data of Cohort 1 by ethnicity and compared it to the state averages (Table 30). CTC enrollment was similar between Bridge students and the state average, with Pacific Islander Bridge students enrolling at half the rate of the state average. University enrollment, however, was lower for Bridge students in almost all ethnicities. However, Pacific Islander Bridge students enrolled at the university level at a higher rate than the state average.

Table 30

Percent of Each Ethnicity Enrolled in Postsecondary Education, Bridge and State Average

Ethnicity	% Enrolled CTC, Bridge	% Enrolled in CTC, State	% Enrolled University, Bridge	% Enrolled University, State
White	22%	21%	8%	18%
Hispanic/Latino	23%	22%	10%	16%
Asian	23%	23%	20%	37%
Two or More Races	17%	21%	15%	21%
Black/African American	21%	21%	15%	19%
American Indian	17%	18%	14%	12%
Pacific Islander	7%	13%	19%	14%

College Grades. Figures 25-27 show the percentage of each letter grade that students earned during the Fall, Winter, and Spring terms of English in college. Bridge to College students and Non-Bridge college students are included to provide a comparison. A similar pattern emerged over all three terms of college. Non-Bridge comparison students earned a higher percentage of A's and B's in their first year English courses when compared to Bridge students and Bridge students that earned a B or better in their high school Bridge English course. Bridge students earned a higher percentage of C's and F's overall, while all three groups earned about the same percentage of D's.

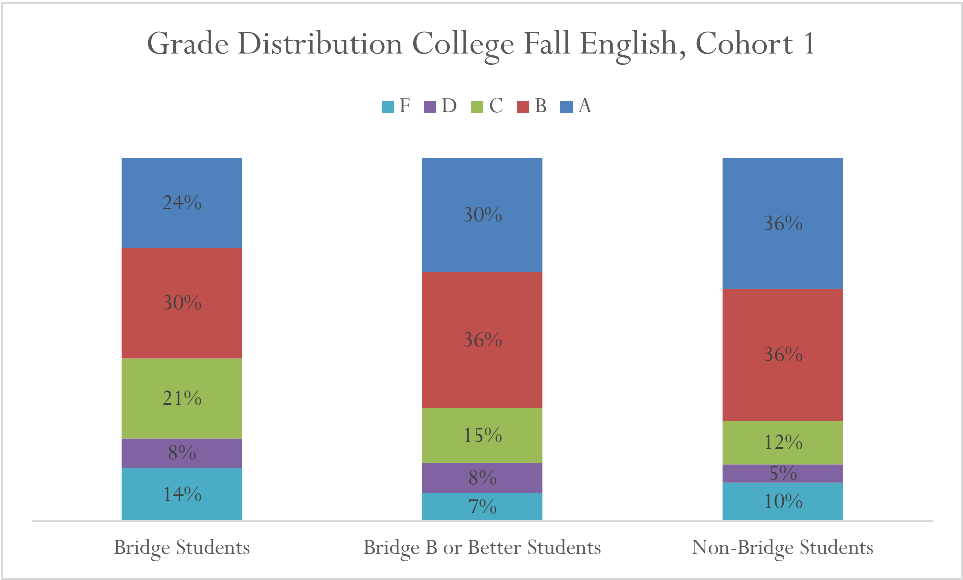


Figure 25.

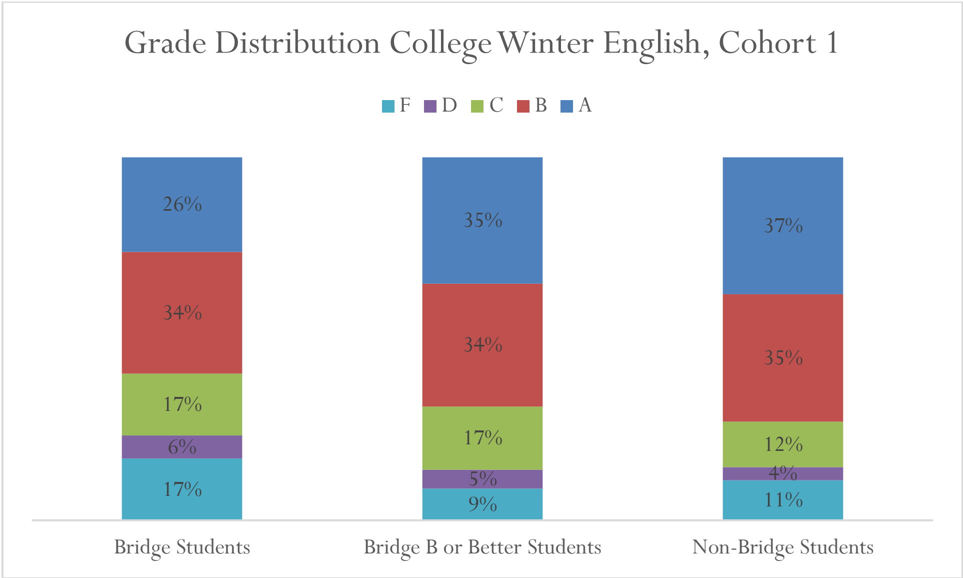


Figure 26.

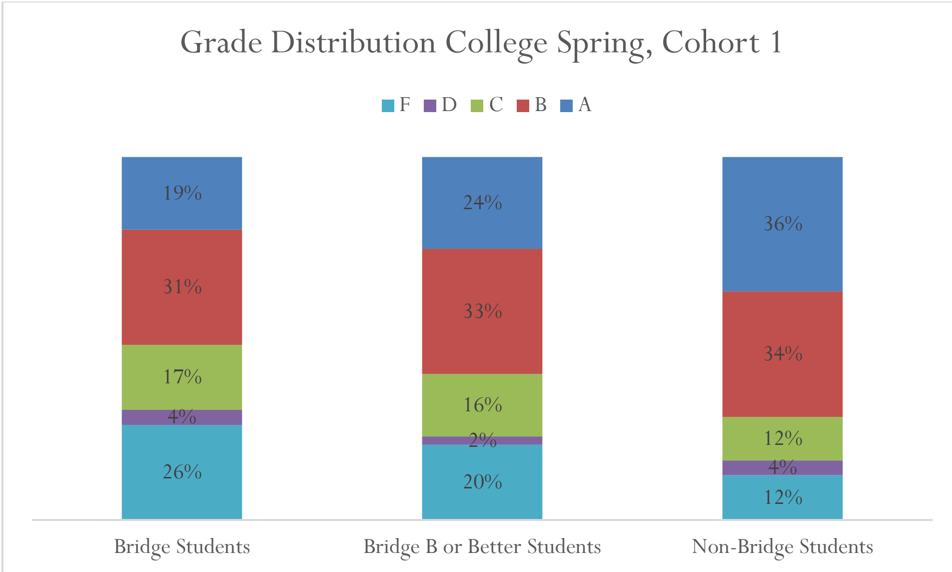


Figure 27.

Figures 28-31 show the percentage of each letter grade that students earned during the Fall, Winter, and Spring terms of Math in college. Bridge to College students and Non-Bridge college students are included to provide a comparison. A similar pattern emerged over all three terms of college. Non-Bridge comparison students earned a higher percentage of A's and B's in their first year of college math. During spring term, Bridge students who earned a B or higher in their high school Bridge Math course earned a lower percentage of A's but a higher percentage of B's than

non-Bridge students. Bridge students and non-Bridge students earned a similar percentage of C's throughout the year but generally earned a higher percentage of D's and F's as well.

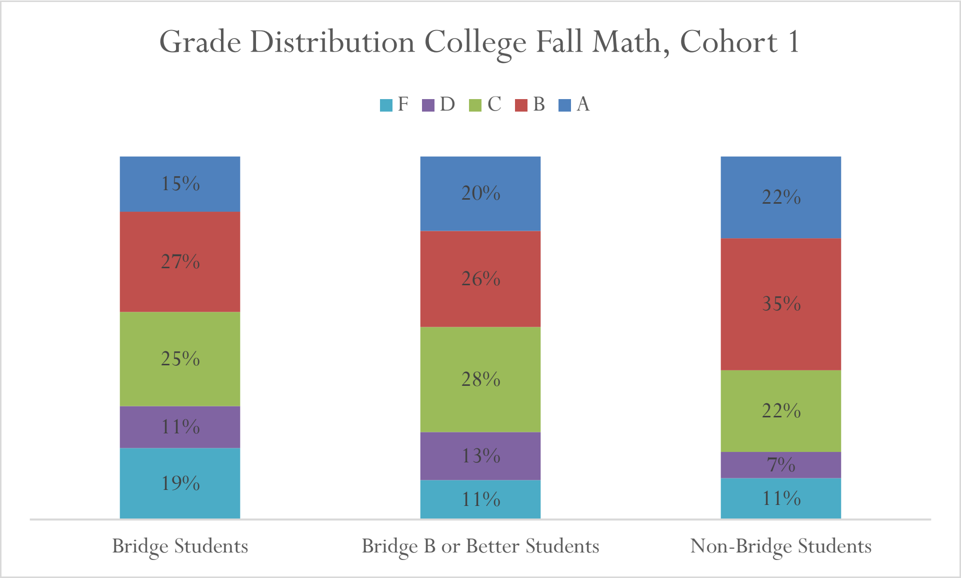
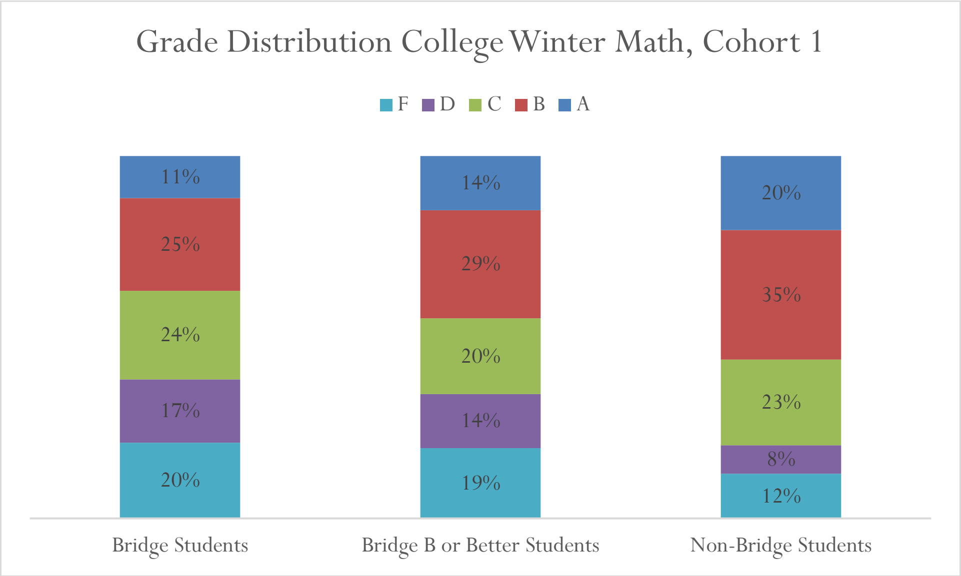


Figure 28.



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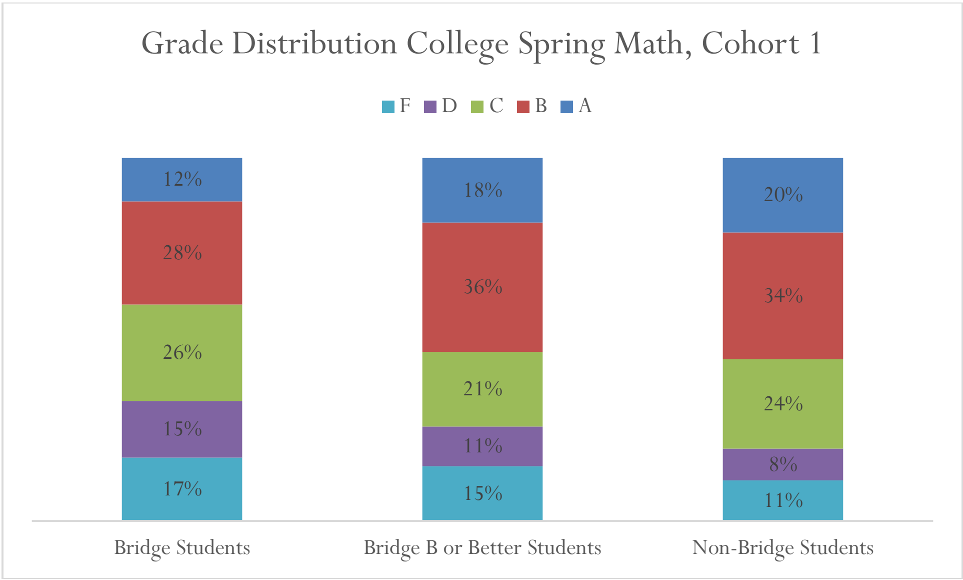


Figure 30.

Cohort 2

Demographics. Cohort 2 students were defined as 12th grade students with an expected graduation year of 2017. Table 31 shows the demographics of Cohort 2 grantee schools broken down by ethnicity. There was a total of 1,289 students enrolled in Bridge to College Math and 1,364 students enrolled in Bridge to College English. Students enrolled less than 90 days were removed, and researchers accounted for missing student data when running all analyses. Figure 31 shows a comparison of demographics of Bridge to College students and total school population by ethnicity. The Bridge to College students equally represent the entire school populations.

Table 31

Cohort 2 Demographics

	Bridge Math		Bridge English	
Race/Ethnicity	# of students	% of students	# of students	% of students
American Indian/Alaska Native	32	2.5%	33	2.4%
Asian	59	4.6%	65	4.8%
Black/African American	72	5.6%	79	5.8%
Hispanic/Latino	322	25.0%	279	20.5%
White	706	54.8%	794	58.2%
Pacific Islander	17	1.3%	28	2.1%
Two or more races	81	6.3%	86	6.3%

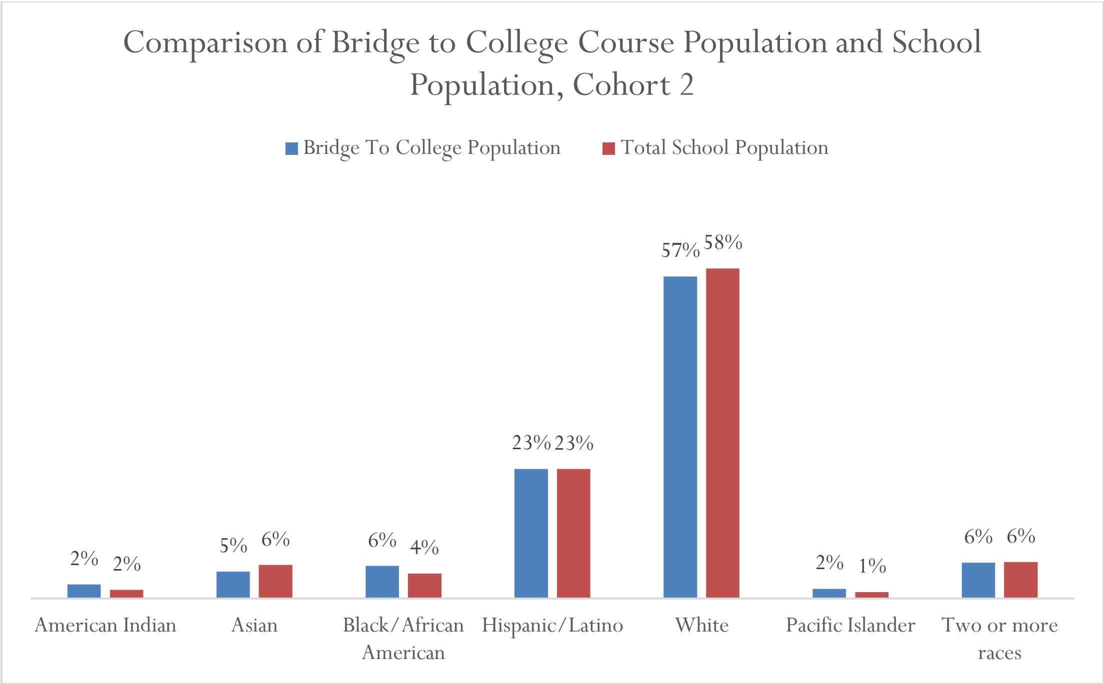


Figure 31

Outcome Data. The following analyses look at descriptive and inferential statistics for students in Bridge to College courses compared to their peers within grantee schools. Student placement into Bridge to College was not random but influenced by prior academic performance and predetermined program criteria. Therefore, causality between variables cannot be directly assumed. However, analyses revealed patterns and relationships between program variables and student outcomes that can be crucial in providing formative feedback for program development and a determination of overall program effectiveness over time.

Table 32 shows the distribution of Cohort 2 students in Bridge to College Math and English courses by SBA performance level. When compared to Cohort 1, the distribution of students in both English and Math Bridge courses are similar. In both Bridge courses, the majority of students scored L1 or L2 on their SBA. A larger proportion of students scored L3 in English Bridge courses and a small percentage scored L4 in either course.

Table 32

Distribution of Students by SBA Level and Class, Cohort 2

Bridge Class	SBA Performance Level	Total Students
English	L1	203
	L2	448
	L3	328
	L4	92
Math	L1	408
	L2	402
	L3	111
	L4	7

Course Failure Rates. Researchers analyzed course failure rates of students participating in Bridge to College courses. Table 33 shows the percentage of English class failures by Cohort 2 students, disaggregated by class and SBA level. Table 34 shows the same statistics for Math courses. Students who earned an L1 or L2 on the ELA SBA and were enrolled in an English Bridge course failed at a lower rate than their peers who took a regular English course. However, students that earned an L3 or L4 on the ELA SBA failed at the same or slightly higher rate as their peers in regular English courses. Students who earned an L1 or L2 on their Math SBA and were enrolled in a Math Bridge course failed at a lower rate than their peers who took a traditional math course.

Table 33

Percentage of Students Failing English Courses, Cohort 2

SBA ELA Performance Level	Bridge English	English/ Language Arts I	English/ Language Arts II	English/ Language Arts III	English/ Language Arts IV
L1	4.9%	10.3%	10.9%	11.0%	6.8%
L2	6.3%	8.4%	9.6%	7.8%	4.7%
L3	5.2%	4.5%	5.1%	5.3%	3.2%
L4	6.6%	1.3%	2.1%	2.9%	1.7%

Table 34

Percentage of Student Failing Math Courses, Cohort 2

SBA Math Performance Level	Bridge Math	Geometry	Algebra I	Algebra II	Pre-Calculus
L1	7.9%	16.6%	16.2%	17.5%	18.3%
L2	3.2%	6.0%	4.9%	8.2%	10.8%
L3	0.9%	1.5%	1.3%	3.2%	4.8%
L4	0.0%	0.2%	0.0%	0.4%	0.8%

Course grade data was further broken down to focus on students who scored a B or better in their respective Bridge course. Table 35 shows the number and percentage of students passing Bridge to College classes with a B or better. In English Bridge courses, 46% of students earned a B or better while in the Math Bridge course 42% of students earned a B or better. This is an improvement from Cohort 1, where 35% of students earned a B or better in English Bridge and 36% of students earned a B or better in Math Bridge. Table 36 shows the number and percentage of students that received a B or better in Math and English Bridge to College courses broken down by SBA level. A general pattern in both English and Math Bridge courses is an increasing rate of students earning a B or better as the SBA performance level increases. In both courses, twice as many L3 students earn a B or better than L1 students. That gap is much smaller when comparing L2 and L3 students, with a difference of 19% in English and 9% in Math.

Table 35

Number and Percentage of Students Passing with B or Better, Cohort 2

Bridge Class	# Passing with a B or Better	% Passing with a B or Better	Total Students
English	601	46.6%	1364
Math	548	42.5%	1289

Table 36

Number and Percentage of Students Passing with a B or Better by SBA level, Cohort 2

Bridge Class	SBA Performance Level	# Passing with a B or Better	% Passing with a B or Better
English	L1	54	26.6%
	L2	149	33.3%
	L3	173	52.7%
	L4	58	63.0%
Math	L1	131	32.1%
	L2	229	57.0%
	L3	74	66.7%
	L4	6	85.7%

Table 37 shows the percentage of students receiving a B or better in Math and English Bridge to College courses disaggregated by race and ethnicity. When compared to peers, Asian, Native American, and White students passed with a B or higher at a higher rate than African American, Hispanic/Latino, and Pacific Islander students. Pacific Islander students had the lowest rate out of all ethnic groups, with only 14% passing English Bridge with a B or better and 29% passing Math with a B or better.

Table 37

Percentage of Students with B or Better by Race/Ethnicity, Cohort 2

Race/Ethnicity	Bridge English % Passing with a B or Better	Bridge Math B % Passing with a B or Better
American Indian	48.5%	43.8%
Asian	52.3%	54.2%
Black/African American	34.2%	30.6%
Hispanic/Latino	32.3%	41.9%
White	43.2%	51.0%
Pacific Islander	14.3%	29.4%
Two or more races	39.5%	40.7%

Summary

Cohort 1 Bridge to College student data included postsecondary enrollment and English and Math grade data. Though Cohort 1 students attended 4-year colleges at about the same rate, Bridge students that earned a B or higher had a higher enrollment rate at CTC institutions when compared to the state average. When analyzing college English and Math grades, Bridge to College students had slightly lower grades than their non-Bridge peers in both subjects. Bridge students earned a lower proportion of A's and B's and a slightly higher proportion of C's and D's. Students that scored a B or better in Bridge Math or English courses almost matched non-Bridge students in grade distribution, suggesting that success in a Bridge course may have some positive influence on college grades.

Cohort 2 Bridge to College student data included high school data. The placement process into Bridge courses for Cohort 2 were quite similar to Cohort 1, as the demographic proportions of students by SBA level and ethnicity were nearly identical. In addition, Cohort 2 Bridge students performed better in Math and English courses when compared to their peers, as measured by the percentage of students failing a course.

SCHOOL-YEAR ACADEMIC YOUTH DEVELOPMENT

Program Overview

Agile Mind, in collaboration with the Charles A. Dana Center, developed Academy Youth Development (AYD). This program translates research on student motivation, engagement, and learning into practical strategies and tools teachers and students can use daily in the classroom. A specific focus is on *Growth Mindset*, whereby teachers and students understand that intelligence is not a fixed quality, and through effective effort, persistence, collaboration, and motivation students can improve their academic success.

Within CSW's Math Initiative, AYD was designed to be delivered during advisories or in other dedicated settings to students in Grades 8, 9, and 10. The intent was to improve all students' Smarter Balanced Assessment scores in the 11th grade. Additional research on this program, conducted by the Charles A. Dana Center, has demonstrated improvements in students' overall Grade Point Average (GPA) as well as decreases in student absences and disciplinary referrals. During Year 3, researchers visited Cohort 1 and Cohort 2 schools implementing AYD. Cohort 1 consists of seven schools, while Cohort 2 is comprised of one school (Table 38).

Table 38

Academic Youth Development Schools, Cohort 1 and Cohort 2

Cohort 1	
District/Consortium	**School**
Bellingham	Shuksan Middle School
Bremerton	West Hill STEM (*formerly Bremerton High School*)
Granite Falls	Granite Falls Middle School
Manson	Manson Middle School
Oroville	Oroville High School
Pasco	Delta High School
Toppenish	Toppenish High School
Cohort 2	
Blaine	Blaine Middle School

Contextual Factors

During the 2017-2018 school year, AYD delivery continued to vary based on school and student needs. In order to accommodate AYD as designed, schools needed to purposefully create their master schedule with the course in mind. Focus group participants spoke about the success, challenges, and benefits of their unique model of AYD delivery, many noting that this flexibility in using the course contents to best meet their needs was a contextual factor allowing the program to work.

Evidence of Implementation

Research Question 1: To what extent was the initiative implemented as intended?

The implementation of AYD continued to vary widely across schools during the 2017-2018 school year. Additionally, the overall implementation perceptions reported by leadership showed some improvements from last year, but generally indicated lower levels of implementation across the program.

Leadership Survey. School leaders from Cohort 1 and Cohort 2 AYD schools completed an implementation survey at the end of the 2017-2018 school year. The survey was designed to quantify the five areas of implementation outlined in the AYD Implementation Guide. In total, six principals responded to the survey, although responses from Cohort 2 are not presented due to the small sample size of one. Each survey item was created as a forced-choice, 4-point Likert- type scale. Overall, responses indicated mixed trends in implementation levels across the factors over time for (Figure 32). A mean score response of 3.0 or higher on the factors would represent a high level of implementation.

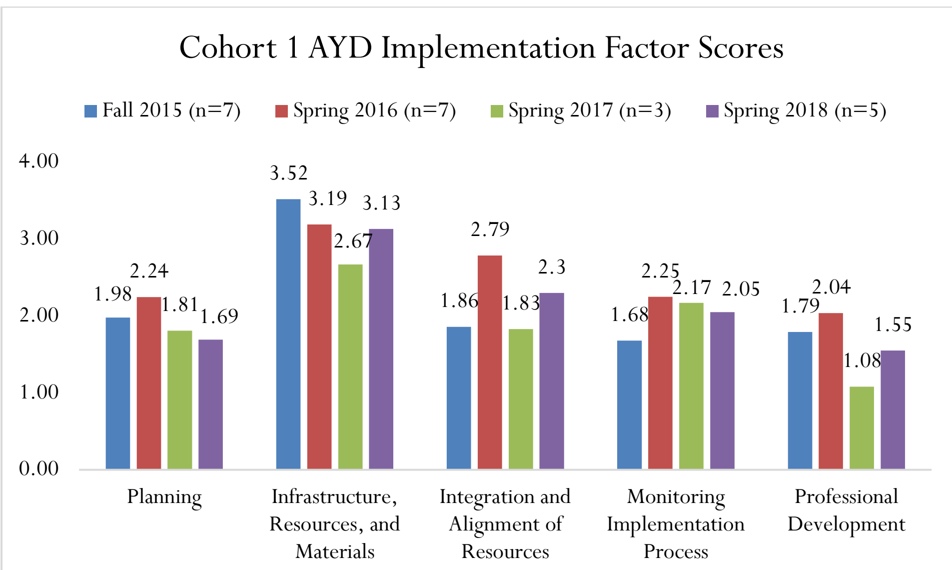


Figure 32. AYD Principal Implementation Survey Cohort 1, 2015-2018.

During Spring 2018, *Infrastructure, Resources, and Materials* was the only mean factor scoring above 3.0. Scores for *Professional Development* and *Integration and Alignment of Resources* increased during the most recent survey administration, while scores for *Planning* decreased slightly.

Class Organization. During the 2017-2018 school year, implementation of AYD continued to vary between schools. According to survey responses, the AYD program varies by format, frequency, and duration (Table 25). For example, one school delivers AYD as an advisory program supplement, once per week, for less than 15 minutes. In contrast, another school embeds AYD into other subjects, every day, accumulating 225 minutes or more per week. Baseline survey responses from Cohort 2 leadership indicated that AYD is delivered a few times per week during advisory, for approximately 110 minutes of total time per week.

Qualitative responses from school staff confirm these survey responses. Each school reported a slightly different delivery model, with some meeting daily, with a group of students each quarter, during an advisory block, or by embedding AYD strategies into another course. Several focus group participants noted the importance of having an aware administration, with some participants mentioning that shifts in school administration or priorities impacted the delivery of the program (Table 39).

Table 39

Cohort 1 Academic Youth Development Program Format, 2018

School	In what format does the school deliver AYD curriculum?	How often does AYD class meet?	How long is each AYD class?
School 1	Rotating 1st period	Daily	30-45 minutes
School 2	Advisory program	1x per week	1-15 minutes
School 3	Advisory program	3x per week	30-45 minutes
School 4	Embedded in other content areas	Daily	45+ minutes
School 5	Embedded in other content areas	Daily*	16-29 minutes

Note. *School 5 indicated AYD class meets daily, but does not necessarily teach SY-AYD daily.

Research Question 2: What are the barriers/challenges to implementing the initiative?

Similar to last year, challenges with AYD implementation included repetitive content, concerns about the developmental appropriateness of the lessons, and teacher investment and expertise in content knowledge. This year, several focus group members also noted that holding students' interest throughout the year and managing and providing adequate technology also presented as challenges to implementation.

Repetitive Content. Several teachers spoke about the repetitive nature of the AYD content. One teacher noted, "they have heard it a ton already, then AYD starts breaking it up, the saturation of students turns them off to the lesson." While another shared, "I had a student who said he wanted to learn, but that it was too repetitive, and he was bored." Students also noted that the repetitive nature of lessons made them somewhat less engaged in specific lessons, although overall students that participated in focus groups were extremely positive about their experience in AYD. A few focus group participants noted that they were shifting the language around, and adding in some additional content, to keep the students engaged and the learning fresh. One school administrator shared,

> Implementation is pretty straightforward: you have the curriculum and you get to pick and choose (our teacher chooses not to do blocks 11, 12, and 13). One thing that is a little tough is keeping the investment/interest that is captured in the beginning blocks going thought the middle blocks which are drier and content heavy. With the block that uses the matchsticks problems, almost all students found the problems too easy and were not getting the lesson goal of feeling that sense of achievement of completing a hard task. To combat this, [our teacher] found his own logic puzzles that the students really wrestled with, but he feels this was better suited to the lesson plan.

Age Appropriate Content. Teachers continued to communicate frustration with some content that they perceived as "too simple," "too childish," or "too easy." One teacher noted that because the content was often less rigorous, it was difficult to engage students in the reflection component of the lesson. Teachers felt there would be more value added to the reflection time if the challenges students faced required more sustained effort and participation.

Teacher Experience, Interest, and Investment. During focus groups, teachers and school administrators talked about the importance of having teachers that were the right fit to teach AYD. In schools where the responsibility for teaching the course content was spread across an entire department or staff, it appeared there were more concerns about implementation fidelity. One school leader shared perceptions regarding challenges, listing:

> Getting adults to be authentically excited about the content [is a challenge] Some teachers are resistant to [the] prepackaged nature; we have innovative staff, and they like to develop new stuff. Some of it is that teachers are in love with their content, and growth-mindset stuff isn't for all of them. I have 3-4 that are in it, 2-3 that are on the fence, one of my teachers is totally a team player, another is quiet, not as vocal, another teacher is the most committed, another is the least committed he flies through the lessons, teacher doing a lot to juggle all things, another teacher believes in the philosophy, but focuses on with a topic for too long sometimes…

One teacher from an AYD school shared, "instead of blending AYD, financial literacy, [and] high school and beyond plan, let's have one teacher be the expert on AYD, financial literacy, and beyond plan, and have 12 weeks of [this combination]." Another teacher noted, "I often have to throw it together, if a teacher were assigned as the expert it would be better, we are piecing it together; [an expert] would have more consistent time with kids, and more time to piece it together."

Technology. During focus groups, teachers spoke about the AYD interface, noting that it could be friendlier to navigate, with one teacher describing it as "cumbersome". Teachers also mentioned

that there were still some issues with logging on, which impacted their ability to deliver content with fidelity. One focus group participant noted,

> I would like to have a blog to talk and share resources, my students would like to use a student app, teachers are supposed to use the platform, but students take a while to log on. We have 30 minutes per day, [if we are] in my computer lab it's fine, but transitions take too long, the teacher has to navigate to the right place, and by that time we are ready to go…it is designed for two 30-minute blocks, the students are checked out by the time you get to the meat of it.

Research Question 3: To what extent did the technical assistance support implementation?

Overall, program participants continued to appreciate the support and professional development opportunities provided during the 2017-2018 school year. They also noted the value of on-site advisor visits, particularly because the program delivery is so site specific.

Support and Training. Teachers and administrators spoke about the professional development and advisor support offered for the AYD program. Several mentioned the E-AYD trainings offered by Agile Mind (AM), which are required for all grantees participating in the program. Throughout the year, AM also offered additional trainings and site visits to support program implementation and help each school create a program to best fit their individual needs. One teacher shared,

> We go to a hosted event once per year and we also have coaches come to visit. I think we have mixed response from teachers; some teachers may see it as one more thing we have to do. I like the coach coming because I appreciate the support, they help you identify what has been done well and what can be done next.

Most focus group participants also discussed the summer institute, which was described as "effective," "engaging," and "insightful." A few participants expressed a desire to have their summer institute earlier, so they could have more time to take their learning and implement ideas into their classrooms. Several were appreciative of the communication and relationships built with their advisors, commenting on their responsiveness, willingness to provide specific support and be adaptable. One focus group participant shared,

> Agile mind came in and did training on the curriculum. It was wonderful because we got to play with the intervention, we invited specialists and went through and did some of the activities with them. We have needed technical support, and they have been fast at changing rosters, etc…

Another shared, "We enjoyed the training. They provided great insight to the course (walked thought it step by step). At [our school, our AYD teacher] is fairly independent, but there is support offered when needed."

Research Question 4: What organizational changes are required for, or correlate with, successful project implementation?

Research Question5: What role did leadership play in successful project implementation?

As discussed throughout this report, there were several factors that contributed to the perception of successful project implementation. These included teacher selection, flexibility in how AYD is delivered, opportunities for AYD teachers to work with their peers and advisors, a schedule that supports the AYD program, adequate technology, and engaged and knowledgeable leadership. In describing their role as a support for AYD, one school administrator shared,

> I ensured that teachers could get to the PD opportunities and laid out some of the logistics. We have tried to get the right people teaching the program, we have done classroom visits where I'll go with advisors to classes…we created a unit planner, adopted our project-based learning to be used in AYD. We provide subs when teachers are in PD, so they can stay fresh, we did EYAD training about two years ago so that teachers can form habits…scheduling was a priority, and we tried to keep classes small by providing 6 classes, at 20-25 students…

Teachers also spoke to the value of having school administrators that were knowledgeable about the program, provided time for collaboration and planning, and created a master schedule that took the AYD program into consideration. One of the identified strengths of the AYD program has been the incredible flexibility with which schools are able to deliver the content. School leadership that can support their staff in identifying and creating a structure around the needs of the students and the school community was repeatedly discussed as a critical component to the success of this program.

Evidence of Impact

Research Question 6: What are promising student outcomes?

Research Question 8: What are the promising practices?

Despite significant differences in the delivery of AYD across schools, there were several promising practices and successes discussed during focus groups with students, teachers, and administrators from both cohorts. Although it is difficult to quantify outcomes for this program, as there is no consistently administered intervention to measure, stakeholders at the school level felt strongly that they were seeing shifts in thinking and attitude regarding learning, the generalizability of skills from the AYD curriculum, and positive impacts on the school community as a whole.

Self-Efficacy and Growth-Mindset. Program stakeholders felt they were seeing student confidence and efficacy increase after participating in many of the growth mindset and problem solving activities and discussions embedded in the AYD curriculum. Students shared that they were becoming more curious about the learning process, and their own ability to change and adapt to challenges. One teacher noted, "I think that our students have a better understanding of growth mindset and productive struggle. I see the use of the metacognitive wheel into other classes. It's heartwarming to see it bleed out into other classrooms." Similarly, a school administrator commented, "Sometimes I talk to students about growth mindset, they get it. Students believe that they can build brain capacity over time, and that attribution is why our students have been successful."

Generalizability of Skills. Staff and students reported their beliefs that the skills and habits that students were learning through the AYD curriculum were generalizing to other content areas, and even some non-academic situations and spaces throughout schools. One administrator shared,

> The greatest success has been the conversations [our IA teacher] has been able to have with his students about their attitudes towards school and their other classes. He also liked how they held onto the growth mindset and the conversations around that. Two students in particular used to do nothing in the morning, but now they have much greater engagement and [our IA teacher] sees that even though they may not like some problems, they do stick with it and struggle through.

An AYD student noted, "It gives you that push to solve problems in different ways. I'm a lot more confident when I go into a test. Instead of saying oh, I'm going to fail, I say ok, I'm going to try my best." Several other students shared personal successes where they once felt lost or challenged to the point of quitting. Teachers also shared anecdotes from their own classrooms. One teacher commented, "Yea, I've seen it in class, they show more perseverance in my math class. You can hear them talking the lingo in the hallways, when we do reflection, when they talk about the SBAC, about their struggles…" Another noted the value of having students reflect on their learning and challenges to see where they have come, how they have grown, and what they can do next time:

> We all have a common language about how learning works, we can always go back to concepts, I can tell kids "if you have no effort then we won't build new synapses", it's important for kids to reflect and they're doing that.

Improved school-wide communication and instructional alignment. Many focus group participants spoke about the culture shifts in classrooms, and across entire school communities, as a result of implementing the AYD curriculum. One teacher shared, "The curriculum helps me to get to know my students better than most. Those students have a group of students to go to as well; [it is] strongest community among my classes." A few administrators also commented on how students were using the language and habits learned, and engaging in a more positive form of communication, especially around problem-solving and facing challenges.

Research Question 9: To what extent are the changes sustainable?

Similar to discussions about the sustainability of IA, schools in both AYD cohorts noted that obtaining financial support beyond the grant was a deciding factor in continued implementation. Overall, focus group participants discussed the perceived benefits of continuing some form of the AYD program, even if purchasing the materials was not an option. One school administrator shared,

> It's pretty expensive! We have the grant for one more year, and after the end, I'm nervous about what it will look like afterward. That will be a piece that our leadership will have to figure out. That's why we are not an AVID school! It's more money than we want to spend, I don't think we will go away from the content, but we may not buy the program.

Summary and Recommendations

Overall, administrators, teachers, and students reported many strengths and successes related to the AYD programs in their schools. While a few schools continued to implement the program as originally intended, several also modified the program delivery to best meet the needs of their own community of learners. As a result of the diversity of implementation, it is difficult to make any quantitative connections between participation in the AYD program and academic or social/ emotional outcomes. Anecdotal reports from school level stakeholder do provide insights into the perceived benefits of this program, however, including the development of growth mindset, improved self-efficacy, improved problem-solving and communication skills, and more confidence in academic courses that at one time seemed less accessible.

Recommendations

Many recommendation from the Year 1 report were addressed and resolved during the year of implementation since the last progress report. Schools seem more comfortable delivering the program with flexibility, modifying some of the content, and resolving questions about on-line vs. in class time expectations. A few challenges continue to persist, and recommendations are included to address these concerns.

Staff Selection. Focus group participants noted the need to select teachers that believe in the foundational concepts of AYD, including growth mindset, and are willing to develop their own skill set to teach these non-academic strategies and habits to students. While this was not a new perspective, a few teachers noted that this course would really benefit from having teachers that are experts. As the delivery model has become more flexible, there may be teachers that feel less confident in delivering the content or did not receive training. We recommend continued efforts to provide training for all teachers delivering AYD content, even in schools where the content is a small part of another academic course.

Increase Content Rigor. Another continuing recommendation made was to need to provide more sophisticated content for older students. Students and teachers continued to ask for more rigorous puzzles, games, and activities to engage and challenge higher-level learners.

Appendix A. Intensified Algebra Grantee Schools

Table 1B

Intensified Algebra Cohort 1 Grantee Schools

District/Consortium	School
Bellingham	Bellingham High School
Bellingham	Sehome High School
Bellingham	Squailicum High School
Granite Falls	Crossroads High School
Granite Falls	Granite Falls High School
Manson	Manson High School
Mount Baker	Mount Baker High School
Oroville	Oroville High School
Tonasket	Tonasket Middle School
Granger	Granger High School
Wahluke	Wahluke High School
Walla Walla	Walla Walla High School
Wapato	Wapato High School

Table 2B

Intensified Algebra Cohort 2 Grantee Schools

District/Consortium	School
Bethel	Graham-Kapowsin High School
Bethel	Bethel High School
Bethel	Spanaway Lake High School
Edmonds	Edmonds-Woodway High School
Edmonds	Lynnwood High School
Mt. Adams	White Swan High School
Sequim	Sequim High School
Yakima	Davis High School
Yakima	Eisenhower High School

Appendix B. Intensified Algebra Comparison Schools

Table *38*

Agile Mind Cohort 1 Comparison Schools

District/Consortium	School
Chimacum School District	Chimacum Elementary School
Entiat School District	Entiat Middle and High School
Everett School District	North Middle School
Everett School District	Sequoia High School
Granger School District	Granger Middle School
Klickitat School District	Klickitat Elem & High
Montesano School District	Montesano Jr-Sr High
Moses Lake School District	Moses Lake High School
Mukilteo School District	ACES High School
North Kitsap School District	North Kitsap High School
North Thurston School District	River Ridge High School
Sequim School District	Sequim Middle School
Toppenish School District	Toppenish High School
Toutle Lake School District	Toutle Lake High School
Tumwater School District	Tumwater High School
Vancouver School District	Jason Lee Middle School
Vancouver School District	Hudson's Bay High School
Warden School District	Warden Middle School
Warden School District	Warden High School

Table 2

Agile Mind Cohort 2 Comparison Schools

District/Consortium	School
Bridgeport School District	Bridgeport High School
East Valley School District	East Valley High School
Evergreen School District	Evergreen High School
Kent School District	Kent-Meridian High School
Clover Park School District	Lakes High School
Spokane School District	Lewis & Clark High School
Highline School District	Mount Rainier High School
North Mason School District	North Mason Senior High School
Shoreline School District	Shorewood High School
Chehalis School District	W F West High School

Appendix C. Bridge to College Schools

Table 3B. Bridge to College Participating Schools

District	School Name	Math	English
Aberdeen School District	Harbor High School		x
Anacortes School District	Anacortes High School	x	x
Arlington School District	Arlington High School	x	x
Asotin-Anatone School District	Asotin-Anatone High School		x
Battle Ground School District	Prairie High School		x
Bethel School District	Bethel High School	x	x
Bethel School District	Graham-Kapowsin High School	x	x
Bethel School District	Spanaway Lake High School	x	x
Brewster School District	Brewster High School	x	x
Camas School District	Camas High School	x	
Cape Flattery School District	Clallam Bay High School	x	x
Cape Flattery School District	Neah Bay High School	x	x
Castle Rock School District	Castle Rock High School		x
Central Kitsap School District	Klahowya Secondary School	x	
Central Kitsap School District	Olympic High School	x	
Central Valley School District	Central Valley High School	x	
Central Valley School District	University High School	x	
Centralia School District	Centralia High School	x	x
Chehalis School District	W.F. West High School	x	x
Cheney School District	Cheney High School	x	
Chewelah School District	Jenkins High School	x	x
Chimacum School District	Chimacum High School	x	x
Columbia (Stevens) School	Columbia High School	x	x
Davenport School District	Davenport High School	x	x
Dayton School District	Dayton High School	x	
Deer Park School District	Deer Park High School		x
East Valley School District	East Valley High School	x	x
Eastmont School District	Eastmont High School	x	
Edmonds School District	Edmonds-Woodway High School	x	
Edmonds School District	Lynnwood High School	x	
Edmonds School District	Meadowdale High School	x	
Edmonds School District	Mountlake Terrace High School	x	
Ellensburg School District	Ellensburg High School		x
Everett School District	Cascade High School	x	
Everett School District	H. M. Jackson High School	x	
Everett School District	Everett High School	x	
Evergreen School District	Evergreen High School		x
Evergreen School District	Mountain View High School	x	x
Evergreen School District	Union High School		x
Federal Way School District	Decatur High School	x	x
Federal Way School District	Todd Beamer High School		x
Federal Way School District	Federal Way High School	x	x

Franklin Pierce School District	Franklin Pierce High School	x	x
Franklin Pierce School District	Washington High School	x	x
Grandview School District	Compass High School	x	x
Grandview School District	Grandview High School	x	x
Granger School District	Granger High School		x
Highline School District	Health Sciences and Human	x	
Kelso School District	Kelso High School	x	
Lake Stevens School District	Lake Stevens High School	x	x
Lake Washington School	Lake Washington High School	x	x
Longview School District	Mark Morris High School		x
Longview School District	R.A. Long High School	x	
Lopez School District	Lopez Island High School	x	
Lummi Tribal Agency	Lummi Nation School		x
Lynden School District	Lynden High School	x	x
Mabton School District	Mabton Junior Senior High School	x	x
Mansfield School District	Mansfield High School		x
Marysville School District	Arts and Technology		x
Marysville School District	Marysville Mountain View High	x	
Marysville School District	Marysville-•-Pilchuck High School	x	x
Marysville School District	Tulalip Heritage High School		x
Mead School District	Mead Senior High School	x	x
Medical Lake School District	Medical Lake Alternative HS	x	x
Medical Lake School District	Medical Lake High School	x	x
Meridian School District	Meridian High School		x
Methow Valley School District	Methow High School	x	
Montesano School District	Montesano High School	x	x
Moses Lake School District	Moses Lake High School	x	x
Mount Vernon School District	Mount Vernon High School	x	
Mukilteo School District	Kamiak High School	x	x
Mukilteo School District	Mariner High School	x	x
Mukilteo School District	ACES High School		x
Nine Mile Falls School District	Lakeside High School	x	
North Franklin School District	Connell High School	x	x
North Kitsap School District	Kingston High School		x
North Kitsap School District	North Kitsap High School	x	x
North Mason School District	North Mason High School	x	x
North Thurston School District	North Thurston High School	x	
North Thurston School District	River Ridge High School	x	
North Thurston School District	Timberline High School	x	
Northport School District	Northport High School	x	x
Oak Harbor School District	Oak Harbor High School	x	x
Ocean Beach School District	Ilwaco High School		x
Othello School District	Othello High School	x	x
Pasco School District	Pasco High School	x	x
Pasco School District	Chiawana High School	x	x
Peninsula School District	Peninsula High School		x
Peninsula School District	Gig Harbor High School	x	x
Peninsula School District	Henderson Bay High School		x
Pomeroy School District	Pomeroy High School	x	x

Port Angeles School District	Port Angeles High School		x
Port Townsend School District	Port Townsend High School	x	x
Prescott School District	Prescott Junior/Senior High	x	x
Prosser School District	Prosser High School	x	x
Pullman School District	Pullman High School		x
Quincy School District	Quincy High School	x	x
Quincy School District	High Tech High		x
Renton School District	Hazen High School	x	
Richland School District	River's Edge High School		x
Rochester School District	Rochester High School	x	x
Seattle Public Schools	Cleveland High School	x	
Seattle Public Schools	Ingraham High School	x	
Seattle Public Schools	Interagency High School #1	x	
Seattle Public Schools	Interagency High School #2	x	
Seattle Public Schools	Chief Sealth High School	x	
Seattle Public Schools	Middle College High School #1	x	
Seattle Public Schools	Middle College High School #2	x	
Seattle Public Schools	South Lake High School	x	
Seattle Archdiocese	Archbishop Murphy HS	x	
Sedro-Wooley School District	Sedro-Wooley High School	x	x
Selah School District	Selah High School	x	x
Shelton School District	CHOICE High School	x	
Shelton School District	Shelton High School	x	
Shoreline School District	Shorecrest High School	x	
Shoreline School District	Shorewood High School	x	
South Kitsap School District	Discovery Alternative HS	x	x
South Kitsap School District	Explorer Academy	x	x
South Kitsap School District	South Kitsap High School	x	x
South Whidbey School District	South Whidbey High School	x	
Spokane School District	Ferris High School	x	x
Spokane School District	Lewis and Clark High School	x	x
Spokane School District	North Central High School	x	x
Spokane School District	Rogers High School		x
Spokane School District	Shadle Park High School	x	x
Spokane School District	ACES On-Track Academy		x
Steilacoom Hist. School	Steilacoom High School	x	x
Sunnyside School District	Sunnyside High School		x
Tacoma School District	Foss IB World School	x	x
Tacoma School District	Lincoln High School	x	
Tacoma School District	Mount Tahoma High School	x	
Tacoma School District	Oakland High School	x	x
Tacoma School District	Stadium High School	x	x
Tacoma School District	Wilson High School	x	
Tahoma School District	Tahoma High School	x	
Tenino School District	Tenino High School	x	x
Toppenish School District	Toppenish High School	x	x
Tukwila School District	Foster High School	x	x
Vancouver School District	Columbia River High School		x
Vancouver School District	Fort Vancouver High School		x

Wahkiakum School District	Wahkiakum High School		x
Walla Walla Public Schools	Walla Walla High School	x	x
Waterville School District	Waterville High School		x
Wellpinit School District	Wellpinit High School	x	x
West Valley School District	Dishman Hills High School		x
West Valley School District	Spokane Valley High School		x
West Valley School District	West Valley High School		x
White Pass School District	White Pass Jr Sr High School	x	x
Yakima School District	A C Davis High School	x	x
Yakima School District	Eisenhower High School	x	x
Yakima School District	Stanton Academy	x	x
Yelm School District	Yelm High School	x	x

Appendix D. STAR Indicator Tables

Table 1D

Cohort 2 IA STAR Indicator Scores, 2017-2018

Skills Indicators	***1***	***2***	***3***	***4***
1. Teacher provides an opportunity for students to develop and/or demonstrate skills.	4%	7%	63%	7%
			70%	
2. Students construct knowledge to develop conceptual understanding, not just recall.	7%	33%	52%	7%
			59%	
3. Students engage in communication that builds or demonstrates conceptual understanding.	33%	4%	22%	4%
			26%	
Thinking Indicators	***1***	***2***	***3***	***4***
4. Teacher uses a variety of questioning strategies to develop critical thinking.	0%	11%	56%	26%
			81%	
5. Students develop and/or demonstrate effective thinking processes.	11%	11%	33%	11%
			44%	
6. Students demonstrate they are reflecting on a prompt and/or on their own learning.	11%	4%	22%	7%
			30%	
Application Indicators	***1***	***2***	***3***	***4***
7. Teacher assures that the purpose of the lesson is clear and relevant to all students.	11%	30%	52%	7%
			59%	
8. Students demonstrate a meaningful personal connection to the lesson.	30%	59%	26%	0%
			26%	
9. Students produce something for an audience within or beyond the classroom.	59%	19%	19%	0%
			19%	
Relationships Indicators	***1***	***2***	***3***	***4***
10. Teacher assures the classroom is a positive and challenging academic environment.	0%	19%	59%	26%
			85%	
11. Students work collaboratively to provide social peer-support for learning.	19%	15%	33%	7%
			41%	
12. Students experiencing learning activities that are adapted to meet needs of diverse learners.	15%	0%	37%	4%
			41%	

Table 2D

Cohort 2 IA STAR Indicator Scores, 2017-2018

Skills Indicators	*1*	*2*	*3*	*4*
1. Teacher provides an opportunity for students to develop and/or demonstrate skills.	0%	41%	55%	5%
			59%	
2. Students' construct knowledge to develop conceptual understanding, not just recall.	9%	41%	50%	0%
			50%	
3. Students engage in communication that builds or demonstrates conceptual understanding.	41%	45%	14%	0%
			14%	
Thinking Indicators	*1*	*2*	*3*	*4*
4. Teacher uses a variety of questioning strategies to develop critical thinking.	0%	36%	59%	5%
			64%	
5. Students develop and/or demonstrate effective thinking processes.	9%	59%	27%	5%
			32%	
6. Students demonstrate that they are reflecting on a prompt and/or on their own learning.	32%	41%	23%	5%
			27%	
Application Indicators	*1*	*2*	*3*	*4*
7. Teacher assures that the purpose of the lesson is clear and relevant to all students.	0%	55%	41%	5%
			45%	
8. Students demonstrate a meaningful personal connection to the lesson.	36%	55%	9%	0%
			9%	
9. Students produce something for an audience within or beyond the classroom.	95%	5%	0%	0%
			0%	
Relationships Indicators	*1*	*2*	*3*	*4*
10. Teacher assures the classroom is a positive and challenging academic environment.	5%	9%	64%	23%
			86%	
11. Students work collaboratively to provide social, peer-support for learning.	32%	64%	0%	5%
			5%	
12. Students experience learning activities that are adapted to meet the needs of diverse learners.	36%	55%	9%	0%
			9%	

Appendix E. Dana Center Report

College Spark Washington's College-Ready Math Initiative

2017–2018 Annual Evaluation Report

The University of Texas at Austin
Charles A. Dana Center

Table of Contents

Executive Summary

As part of its effort to increase students' math skills, reduce college remediation rates, improve math instruction, and strengthen advisory programs, the College-Ready Math Initiative (CRMI) is implementing two Dana Center–Agile Mind programs:

- **School-Year Academic Youth Development (AYD)***:* A program that helps students reshape their academic identities, enhance their engagement in learning, and improve their achievement
- **Intensified Algebra (IA):** A program that helps students one to three years behind in mathematics catch up and succeed in their first algebra course

Key to IA and AYD's foundation is psychological research indicating courses that integrate cognitive (i.e., rich academic content) and noncognitive (i.e., motivational) aspects of learning are highly effective for improving academic achievement. The term *noncognitive factors* describes the mindsets, beliefs, strategies, and behaviors impacting students' motivation and success in school and beyond. Evidence from studies in psychology and education points to these factors as lifelong learning skills critical to academic success and postsecondary opportunities.

The Dana Center's CRMI research and evaluation involves administering the Student Learning Mindsets and Strategies Survey. Students rate their perceptions of a series of survey items that reflect learning mindsets and strategies (i.e., agency, belonging, engagement, growth mindset, help-seeking, metacognition, self-efficacy). These data are helping the Center understand how students' learning mindsets, strategies, and motivation change related to their experience in IA/AYD.

A look at three years of implementation data shows consistent gains in engagement and self-efficacy for all CRMI students. Over the past two years, IA students have shown the greatest improvement in engagement and metacognition, while AYD students have shown the greatest improvement in metacognition. Meanwhile, growth mindset has consistently shown smaller gains in improvement compared to the other six mindsets over three years of implementation.

The 2017–2018 Annual Evaluation Report presents findings from the student survey administered to Cohort 1 and 2 students who participated in AYD and IA. Schools showing strong positive impacts equal to or greater than overall IA/AYD findings are highlighted in Appendixes A and B. Implications and recommendations for the IA and AYD programs, schools and districts, and further research are also provided.

A Three-year Look at Engagement, Self-efficacy, and Growth Mindset

Consistent Large Gains in Engagement and Self-efficacy

End-of-year (EOY) results from 2017–2018 suggested that on average IA and AYD had the strongest impact on students' perceptions of engagement, self-efficacy, and metacognition. This is evidence that over the course of their yearlong experience in IA and AYD, students perceived that they

- Participated, asked questions, and shared ideas in class more. (engagement)
- Believed more in their capacity to succeed. (self-efficacy)
- Became better able to plan, monitor, evaluate, and adjust their learning and strategies. (metacognition)

Gains in engagement and self-efficacy have been consistent for all CRMI students across three years of implementation. Over the past two years, IA students have shown the greatest improvement in engagement and metacognition, while AYD students have shown the greatest improvement in metacognition.

In 2017–2018, in addition to the three aforementioned constructs, perceptions of agency and help-seeking improved greatly during the year for IA and AYD students, respectively.

Table 1
Mindsets with Largest Yearlong Gains (2017–2018)

	IA	AYD
Agency	16%	10%
Engagement	19%	11%
Help-seeking	14%	13%
Metacognition	20%	14%
Self-efficacy	19%	11%

Small Gains in Growth Mindset

Over the three years of implementation in both IA and AYD, growth mindset has consistently shown smaller gains in improvement compared to the other six mindsets. This is evidence that IA and AYD have consistently had less of an impact on students' belief that intelligence is malleable with effort.

All mindsets for IA and AYD students improved over the course of the 2015–2016 academic year, with the smallest improvements seen in growth mindset. On average, students' perceptions of all mindsets, except grown mindset, improved over the course of the 2016–2017 academic year. There was no shift (or –1 percent, on average) in AYD students' perceptions of growth mindset over the year. IA students' perceptions of growth mindset regressed over the course of the year, showing an average of –9 percent growth.

In the 2017–2018 academic year, there were increases in CRMI participants' perceptions of all mindsets over the year. However, the improvements seen in growth mindset were the second to lowest of all mindsets for IA and AYD students; belonging had the lowest improvement. The average yearlong improvement in growth mindset was 7 percent for AYD students and 13 percent for students in IA.

CRMI 2017–2018

Challenges and Obstacles Addressed from Previous Years

Collecting Accurate and Matched State Student Identification Numbers (SSIDs)

In previous years, survey results were not reflective of all IA and AYD students in the CRMI. Students did not enter consistent identification numbers across survey administrations, leading to low numbers of students who completed all waves of the survey (pre, midyear, and post) and low numbers of students whose SSIDs could be used to gather achievement, attendance, and behavior data from the Washington Educational Research and Data Center (ERDC).

During 2017–2018, the Dana Center collected and matched approximately 800 SSIDs, where in 2016–2017 the Center only had a sample of approximately 140 students. In 2018–2019, the collection of SSIDs has improved even more. The Center collected the official SSIDs of more than 3,300 IA and AYD students. Moreover, the Center has a process to ensure that students enter their correct SSIDs when taking the midyear and EOY surveys so that responses may be matched over time.

Testing the Predictive Validity of the Student Survey

The Dana Center is moving closer to finalizing the Student Learning Mindsets and Strategies Survey through determining its predictive validity (i.e., the extent to which surveys items can predict student achievement and behavioral outcomes). This type of validity allows accurate examination of whether increases in students' learning mindsets and strategies predict increases in student achievement in math and improvements in attendance and behavior.

To test predictive validity, the Dana Center needed a large sample of students identified by their SSIDs to request achievement, behavioral, and/or attendance data from the Washington ERDC. In January 2019, the Center will submit a data request for approximately 800 students who participated in the CRMI during 2017–2018 and whose surveys were matched across survey administration periods. Following the return of the student data, the Center's research partners at the Institute for Measurement, Methodology, Analysis, and Policy at Texas Tech University will finalize validity testing. The student survey will then be in the final stages of development and ready for publication by 2020.

Key Research and Evaluation Activities

The Dana Center's research and evaluation activities for 2017–2018 addressed data collection, analysis, and reporting across the three cohorts.

Table 2
Key Research and Evaluation Activities for 2017–2018

August 2017
The Dana Center administered the pre-Student Learning Mindsets and Strategies Survey to Cohort 1 and 2 students.
December 2017
The Dana Center administered the midyear Student Learning Mindsets and Strategies Survey to Cohort 1 and 2 students.
April to May 2018
The Dana Center administered the EOY Student Learning Mindsets and Strategies Survey to Cohort 1 and 2 students.
June 2018
The Dana Center analyzed 2017–2018 midyear student survey data and reported overall IA and AYD findings and findings by districts and schools.
July to August 2018
Dr. Afi Wiggins, Dana Center director of evaluation and research, presented the 2017–2018 midyear student survey findings to Cohort 1, 2, and 3 district and school leaders who attended the CRMI Summer Institutes in Edmonds and Wapato. Dr. Wiggins also shared future data collection and reporting plans with attendees. (See 2018–2019 Research and Evaluation Activities section for future evaluation plans.)

July to August 2018 (continued)
The Dana Center administered the teacher pre-CRMI Teacher Mindsets and Practices Survey to 28 Cohort 3 teachers.
August to November 2018
The Dana Center collected state SSIDs from 34 school districts and 48 schools across all three cohorts.

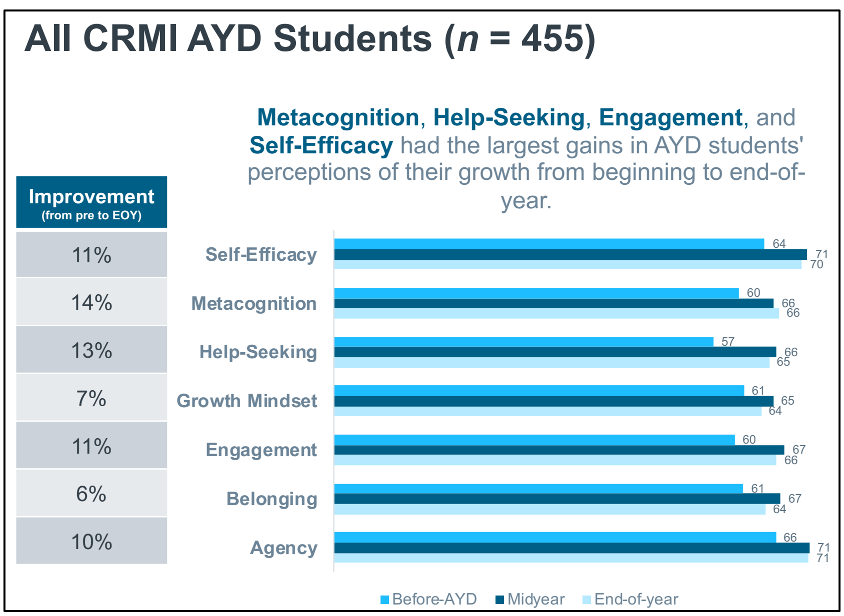
Student Survey Administration

When taking the Student Learning Mindsets and Strategies Survey, students use a 100-point scale (0 = strongly disagree, 100 = strongly agree) to rate their perceptions on a series of survey items that reflect learning mindsets and strategies. They rated items aligned with the following constructs:

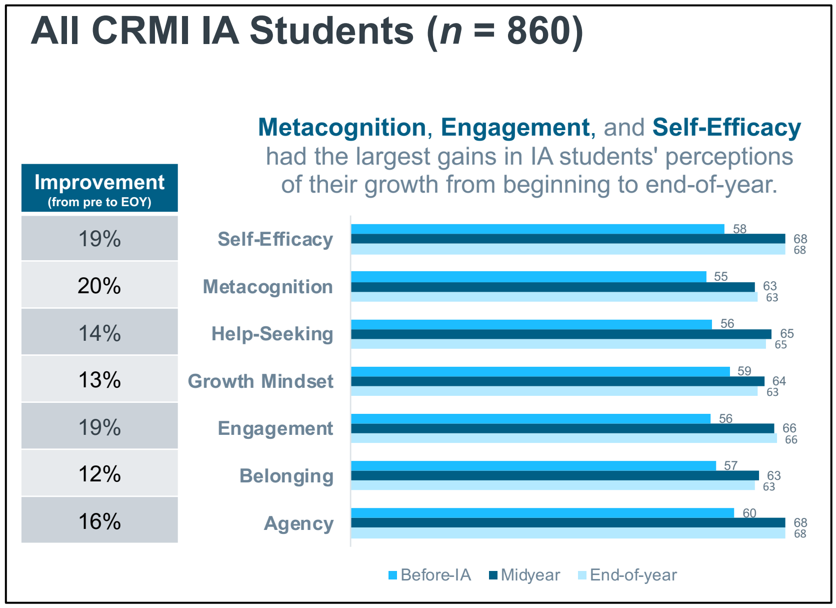
- **Agency:** Beliefs about ones' abilities and efforts
- **Belonging:** An individual's sense of his/her acceptance, value, and being a legitimate member of a group
- **Engagement:** Participating, asking questions, and sharing ideas in class
- **Growth Mindset:** The belief that intelligence is changeable with effective effort
- **Help-seeking:** Seeking help from others in pursuit of one's goals
- **Metacognition:** The extent to which students can plan, monitor, and evaluate their learning, adjusting strategies when necessary
- **Self-efficacy:** The belief about one's capacity to succeed in a particular situation

Overall Findings for 2017–2018

School-Year Academic Youth Development: Overall, students who participated in AYD reported the largest gains in their perceptions of metacognition and help-seeking, improving 14 percent and 13 percent, respectively, from the beginning to end of the year. Students' perceptions of engagement and self-efficacy improved 11 percent over the year. Students also had a 10-percent improvement in their perceptions of agency. The smallest improvements were seen in students' perceptions of belonging and growth mindset. Across all mindsets, the largest improvements in students' perceptions occurred by midyear and leveled off from midyear to EOY. During the 2016–2017 academic year, students' perceptions of these mindsets grew similarly over the course of the year. Appendix A presents AYD school highlights.



Intensified Algebra: Overall, students who participated in IA reported the largest gains in their perceptions of metacognition (improving 20 percent) and engagement and self-efficacy (improving 19 percent) from the beginning to end of the year. Students' perceptions of agency improved 16 percent over the year. The smallest improvements were seen in students' perceptions of belonging and growth mindset. In all cases, the largest improvements in students' perceptions occurred by midyear and leveled off from midyear to the end of the year. During the 2016–2017 academic year, students' perceptions of metacognition and engagement grew similarly over the course of the year, showing consistent improvements in these mindsets over multiple years. Appendix B presents IA school highlights.



Implications

This is the first year that the Dana Center was able to observe changes in students' mindsets over the course of multiple years of IA and AYD implementation. Since 2015–2016, CRMI students have shown consistent large gains in engagement and self-efficacy and small gains in growth mindset. This is evidence that IA and AYD have consistently and largely improved students' in-class participation with their peers and teachers and their perceptions about their capacity to succeed in a particular situation. IA and AYD have consistently had less impact on students' belief that intelligence is malleable with effort.

A recent National Study of Learning Mindsets (Yeager, et al., 2018)[1] suggests that when students are in school environments that value motivation and achievement and encourage students to challenge themselves intellectually, short-term growth mindsets interventions may yield sustained benefits. For IA and AYD, such findings suggest the importance of creating school and classroom environments that encourage growth mindset beliefs and practices in students. Yeager et al. findings, along with CRMI findings over three years, also suggest that the combination of curricula (e.g., IA and AYD), teacher beliefs and practices, and school and classroom environments that encourage growth mindset beliefs and practices have lasting effects on students.

(**Note:** The National Study of Learning Mindsets was a longitudinal randomized control study designed to understand whether and where a short growth mindset intervention changed educational outcomes for lower-achieving students who participated in the program. The

[1]Yeager, D. S., Hanselman, P., Paunesku, D., Hulleman, Dweck, C., Muller, C., … Duckworth, A. L. (2018, March 9). MANUSCRIPT UNDER REVISION: *Where and for whom can a brief, scalable mindset intervention improve adolescents' educational trajectories?*

intervention was a 50-minute, self-administered, online intervention in reading and writing. The main findings from the study were that the intervention reduced the prevalence of a fixed mindset and had "modest but consequential" effects on lower-achieving students' grades in math and science and their enrollment in advanced math courses [p. 2]. Effects on math and science grades were stronger in schools where peer "behavioral norms regarding challenging schoolwork" were aligned with the growth mindset message of the intervention [p. 2]. When the school environment was conducive to "cycles of motivation and achievement" and when peers showed they valued intellectual challenges, benefits were greater and sustained [p. 22]).

Recommendations

A three-year look at the CRMI showed that IA and AYD have largely improved students' perceptions of engagement and self-efficacy and consistently have less of an impact on their perceptions of growth mindset. There has also been moderate improvement in agency, belonging, help-seeking, and metacognition. The Dana Center recommends the following:

- **Program developers** focus more on developing the course around growth mindset.
- **Schools and districts** continue to create school and classroom environments that are intentionally safe places for students to manifest value for intellectual challenges and encourage students' thoughts and behaviors around belief in themselves, seeking help from others, and being planful and reflective.
- **Research and evaluation** expand efforts to include comparison groups for IA and AYD and collect and use teacher background, experience, and classroom environment data. Such efforts will allow the Center to determine if the improvements it has seen in students' mindsets are directly attributable to the courses and whether student outcomes are improved by teacher background factors and classroom environments.

2018–2019 Research and Evaluation Activities

To reduce the data collection burden on teachers for the 2018–2019 academic year, students will be administered the Student Learning Mindsets and Strategies Surveys two times instead of three—midyear and EOY. Although the survey is still undergoing validity testing, there were no changes to the structure of the survey. For the midyear and EOY surveys, students rate their perceptions of the mindsets by reflecting back to before starting IA or AYD as well as their current perspectives.

Table 3
2018–2019 Research and Evaluation Activities

November to December 2018
The Dana Center administers the midyear 2018–2019 Student Learning Mindsets and Strategies Survey and the midyear Teacher Mindsets and Practices Survey to Cohort 3 teachers.
January 2019
The Dana Center submits 2017–2018 SSIDs to Washington ERDC to collect student achievement, behavior, and attendance data for the purposes of completing the validity of the Student Learning Mindsets and Strategies Survey and determining the impact of changes in students' mindsets on their academic and behavior outcomes.
March 2019
The Dana Center reports 2018–2019 midyear student survey results. (**Note:** The report will be issued earlier this year to encourage teachers in their efforts to implement IA/AYD.)

May to June 2019
The Dana Center administers EOY surveys to students and teachers.
June to August 2019
The Dana Center analyzes student data obtained from Washington ERDC, determining the predictive validity of the student survey as well as the impact of changes in students' mindsets on their achievement and behavior.
November 2019
The Dana Center issues the annual evaluation report on the 2018–2019 findings from the student and teacher surveys.
The Dana Center issues the Evaluation Supplemental Report on the impact of changes in students' mindsets on their achievement and behavior.

In addition to the activities described in Table 3, the Dana Center will collect additional data from students and teachers. During fall 2019, the Center will administer a survey to teachers where background and experience information is collected (e.g., years of teaching experience, years of experience teaching IA/AYD, teaching certification, classroom environment questions). The Center will use these data when it analyzes student social-emotional learning (SEL), achievement, and behavior data to determine whether and to what extent student outcomes are improved by teacher background factors and classroom environments.

Beginning Year 3 for Cohort 3, the Dana Center will recruit comparison groups for IA and AYD that will take the Student Learning and Mindsets Survey. The Center will collect data on their achievement, attendance, and behavior and examine whether SEL, achievement, and behavior outcomes are better for students in IA and AYD.

Appendix A

School Highlights for School-Year Academic Youth Development

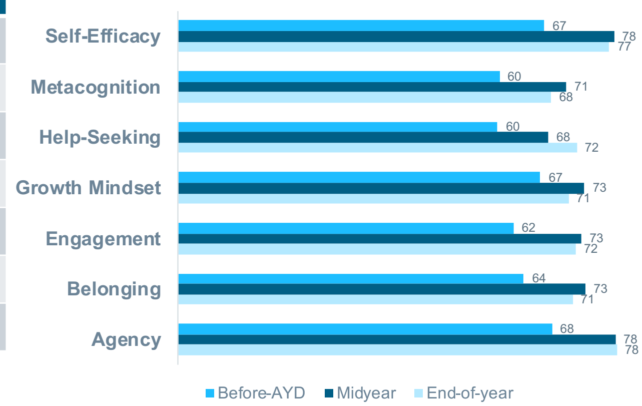
Students who took AYD at Delta High School and Toppenish Middle School continue to have improvements in their mindsets similar to or greater than the average improvements seen by all students in CRMI AYD.

Delta High School AYD (*n* = 117)

Delta High School students improved 21% in their perceptions of agency, help-seeking, and self-efficacy, 18% in engagement and metacognition, and 15% in belonging from the beginning to end of the year. During the 2016–2017 academic year, students had similarly large increases from the beginning to end of the year in engagement, metacognition, and belonging, showing consistency in gains for at least two mindsets (engagement and metacognition) across multiple academic years.

Agency, **Help-Seeking**, and **Self-Efficacy** had the largest gains in AYD students' perceptions of their growth from beginning to end-of-year.

	Improvement (from pre to EOY)
Self-Efficacy	21%
Metacognition	18%
Help-Seeking	21%
Growth Mindset	13%
Engagement	18%
Belonging	15%
Agency	21%

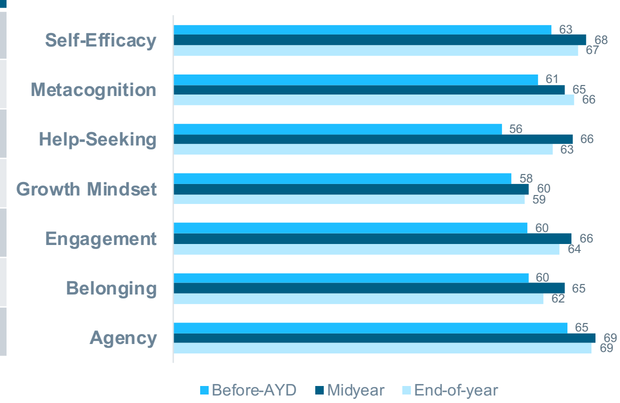


Toppenish Middle School AYD (*n* = 200)

Toppenish Middle School students improved 13 percent in their perceptions of help-seeking and metacognition from the beginning to end of the year. Over the past three years, students have had large increases from the beginning to end of the year in metacognition.

Help-Seeking and **Metacognition** had the largest gains in AYD students' perceptions of their growth from beginning to end-of-year.

	Improvement (from pre to EOY)
Self-Efficacy	8%
Metacognition	13%
Help-Seeking	13%
Growth Mindset	5%
Engagement	9%
Belonging	4%
Agency	8%



Appendix B

School Highlights for Intensified Algebra

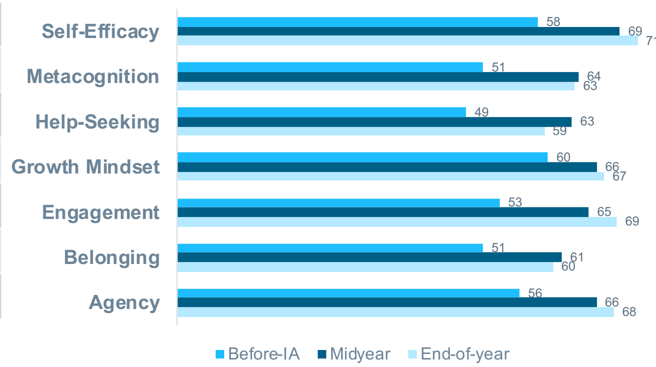
In 10 high schools, students who participated in IA had large improvements in their mindsets similar to or greater than the average improvements seen by all students who participated in CRMI IA.

Bellingham High School IA (*n* = 35)

Bellingham High School students improved 30% in their perceptions of metacognition, 28% in self-efficacy and engagement, 26% in agency, 21% in growth mindset, 19% in belonging, and 17% in help-seeking from the beginning to end of the year. During the 2016–2017 academic year, students improved in engagement (12%), belonging (12%), and metacognition (14%) over the course of the year.

Metacognition, **Self-Efficacy**, and **Agency** had the largest gains in IA students' perceptions of their growth from beginning to end-of-year.

Improvement (from pre to EOY)
28%
30%
17%
21%
28%
19%
26%

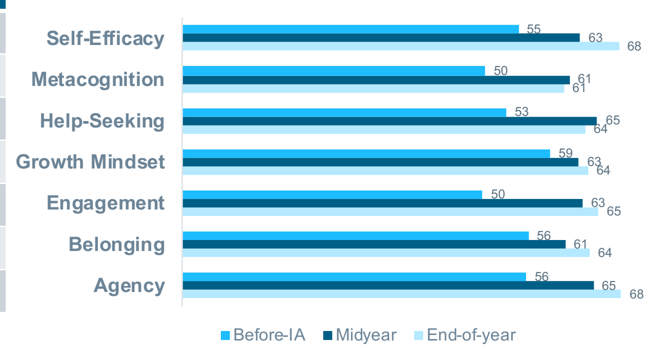


Bethel High School IA (*n* = 61)

Bethel High School students improved 26% in their perceptions of engagement, 25% in self-efficacy and metacognition, 24% in agency, and 18% in help-seeking and belonging from the beginning to end of the year.

Engagement, **Metacognition**, **Self-Efficacy**, and **Agency** had the largest gains in IA students' perceptions of their growth from beginning to end-of-year.

Improvement (from pre to EOY)
25%
25%
18%
14%
26%
18%
24%

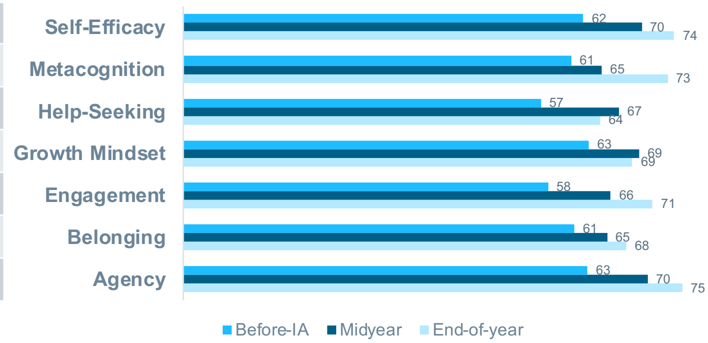


Blaine High School IA (*n* = 30)

Blaine High School students improved 33% in their perceptions of metacognition and agency, 30% in engagement, 29% in self-efficacy, and 20% in growth mindset from the beginning to end of the year.

Improvement (from pre to EOY)
29%
33%
11%
20%
30%
14%
33%

Agency, **Metacognition**, **Engagement**, and **Self-Efficacy** had the largest gains in IA students' perceptions of their growth from beginning to end-of-year.

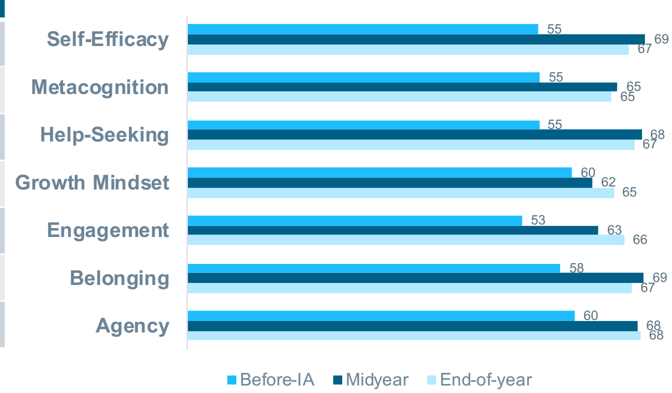


Davis High School IA (*n* = 131)

Davis High School students improved 24% in their perceptions of engagement, 23% in self-efficacy, 22% in metacognition, 19% in help-seeking and belonging, and 17% in agency from the beginning to end of the year.

Improvement (from pre to EOY)
23%
22%
19%
14%
24%
19%
17%

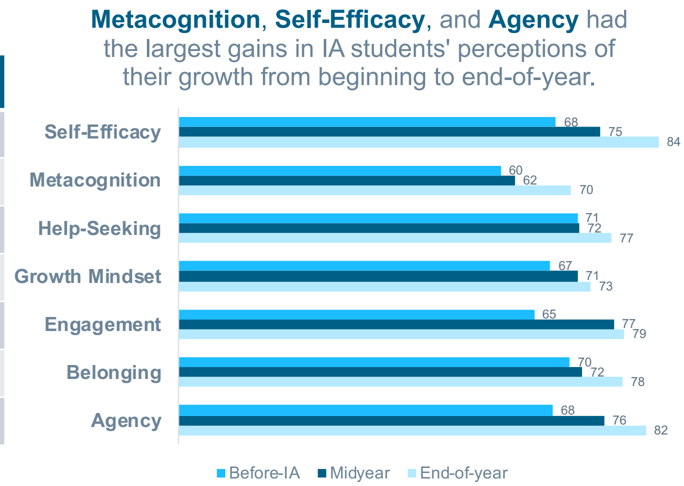
Engagement, **Self-Efficacy**, and **Metacognition** had the largest gains in IA students' perceptions of their growth from beginning to end-of-year.



Reardan High School IA (*n* = 19)

Reardan High School students improved 33% in their perceptions of metacognition and self-efficacy, 29% in agency, 25% in growth mindset and engagement, and 17% in belonging from the beginning to end of the year. During the 2016–2017 academic year, students improved in engagement (13%) and metacognition (11%) over the course of the year.

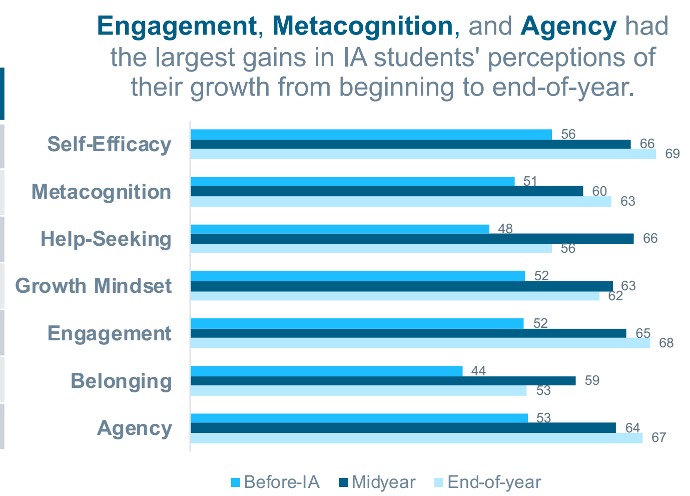
Improvement (from pre to EOY)
33%
33%
10%
25%
25%
17%
29%



Sehome High School IA (*n* = 27)

Sehome High School students improved 28% in their perceptions of engagement and metacognition, 26% in agency, 23% in growth mindset and self-efficacy, and 18% in belonging from the beginning to end of the year. During the 2016–2017 academic year, students improved in engagement (22%), belonging (18%), and metacognition (16%) over the course of the year.

Improvement (from pre to EOY)
23%
28%
13%
23%
28%
18%
26%

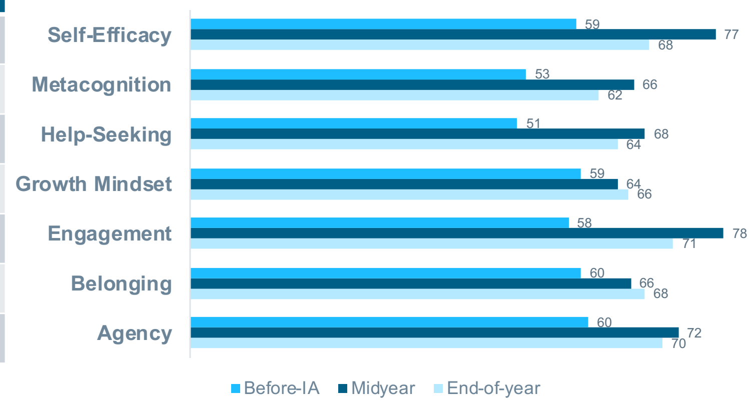


Selah High School IA (*n* = 17)

Selah High School students improved 25% in their perceptions of engagement, 21% in metacognition, 20% in help-seeking, 18% in self-efficacy, 17% in agency, and 15% in belonging and growth mindset from the beginning to end of the year.

Improvement (from pre to EOY)
18%
21%
20%
15%
25%
15%
17%

Engagement, **Help-Seeking**, and **Metacognition** had the largest gains in IA students' perceptions of their growth from beginning to end-of-year.

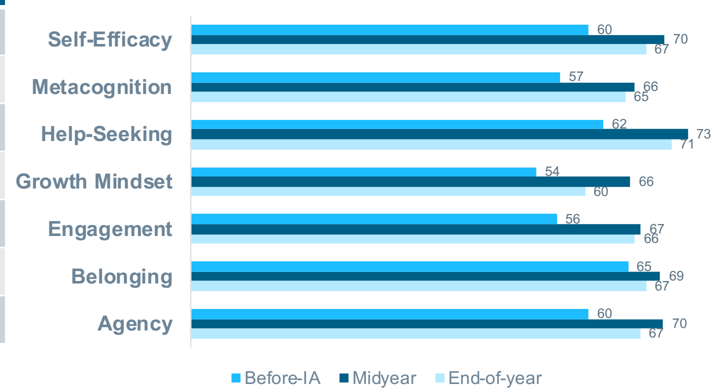


Wahluke High School IA (*n* = 18)

Wahluke High School students improved 21% in their perceptions of metacognition, 20% in engagement, 17% in growth mindset, 16% in help-seeking, and 15% in self-efficacy from the beginning to end of the year.

Improvement (from pre to EOY)
15%
21%
16%
17%
20%
5%
14%

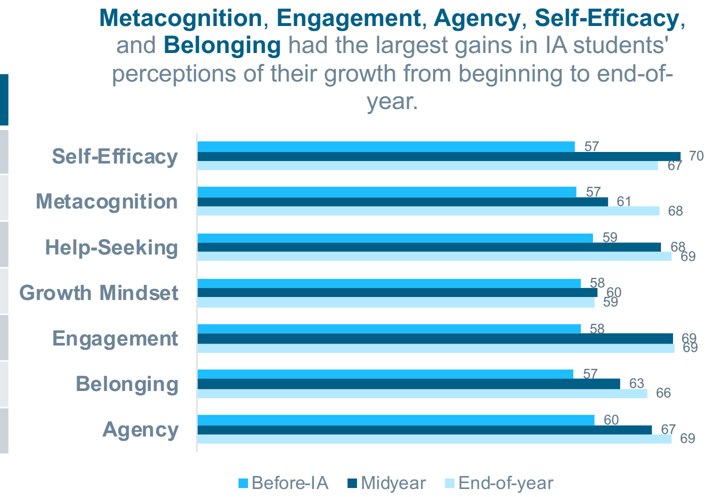
Metacognition and **Engagement** had the largest gains in IA students' perceptions of their growth from beginning to end-of-year.



Wapato High School IA (*n* = 52)

Wapato High School students improved 26% in their perceptions of metacognition, 23% in engagement, 21% in self-efficacy and agency, 20% in belonging, and 18% in help-seeking from the beginning to end of the year. During the 2016–2017 academic year, students improved in metacognition (14%), help-seeking (13%), and engagement (13%) over the course of the year.

Improvement (from pre to EOY)
21%
26%
18%
5%
23%
20%
21%



White Swan High School IA (*n* = 35)

White Swan High School students improved 29% in their perceptions of self-efficacy, 27% in metacognition, 26% in agency, 20% in engagement, 19% in growth mindset, 17% in help-seeking, and 16% in belonging from the beginning to end of the year.

Improvement (from pre to EOY)
29%
27%
17%
19%
20%
16%
26%