FEPP Levy School-Based Investments Implementation & Impact Analysis

July 2024

Conducted by the Department of Education and Early Learning

Evaluation Team
Rosa Ammon-Ciaglo, MPA | Evaluation Manager | rosa.ammon-ciaglo@seattle.gov
Annia Yoshizumi, MPP | Data & Evaluation Advisor | annia.yoshizumi@seattle.gov
Carolyn Hetrick, PhD | Data & Evaluation Advisor | carolyn.hetrick@seattle.gov

Collaborators
Hoang Ngo, PhD | Data & Evaluation Advisor
Ciera Graham, PhD | Manager, K-12 Investments
Theresa D'Agostino | Program Advisor, K-12 Investments
Laura Jones | Program Advisor, K-12 Investments
Colin Pierce | Program Advisor, K-12 Investments
Isabel Emery | Evaluation Planning & Development Specialist

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Introduction

School Based Investments Overview

The Families, Education, Preschool, and Promise (FEPP) Levy K-12 School Based Investments (SBI) provide intensive, supplemental support for 30 select schools within Seattle Public Schools (SPS) that have high concentrations of historically underserved populations and students not yet meeting grade-level learning standards. Table 1, below, details the elementary, middle, and high schools that are current SBI partners.

Table 1: Levy-Funded SBI Partner Schools

Elementary Schools				**Middle Schools**	**High Schools**
Beacon Hill International	John Muir	Martin Luther King Jr.	Sanislo	Aki Kurose	Chief Sealth International
Concord International	Kimball	Northgate	South Shore K-8	Denny International	Grover Cleveland STEM
Dearborn Park International	Leschi	Olympic Hills	Thurgood Marshall	Mercer International	Franklin
Dunlap	Lowell	Rising Star	West Seattle	Robert Eagle Staff	Interagency Academy
Emerson	Madrona	Sand Point	Wing Luke	Washington	Rainier Beach

School Based Investments (SBI) are part of the multi-pronged K-12 approach to reduce opportunity and achievement gaps and increase the overall number of students graduating from high school to prepare them for a college or career path of their choice. Focused outcomes include proficiency in English language arts and math measured by state assessments, on-time high school graduation, and college and career readiness. School Based Investments account for 61% of the total funding allocation to K-12 School & Community Based investments.

School Based Investments have two primary strategies:

1. **Student-level Interventions**: Group and one-on-one interventions to support attendance, academic performance, and college/career readiness. Schools structure their interventions using a Multitiered Systems of Support (MTSS) framework, which divides interventions into three tiers: Tier 1 (interventions that are provided to all or nearly all students through classroom instruction and other settings during the school day); Tier 2 (targeted interventions in response to an observed or expressed student need); and Tier 3 (more intensive intervention provided when Tiers 1 and 2 do not meet student need).
2. **School-Level Strategies**: Capacity-building and continuous improvement efforts, supported by adult professional development and goal setting, focused on areas such high-quality instructional practices, effective leadership, school climate, and family engagement.

Analysis Purpose and Scope

The primary purpose of this analysis is to inform continuous quality improvement of ongoing SBI interventions and identify potential promising practices for future investments in K-12 education.

Analysis addressed the following evaluation questions:

1. What interventions (common strategies and content areas) is DEEL funding at SBI schools?
2. What is the impact of School Based Investments on student academic achievement?
3. Which student-level SBI interventions are most effective?
    a) What is the relationship between student participation in SBI interventions and student-level outcomes?
    b) Where is there evidence of promising practices?
4. Which factors inhibit or support the effectiveness of SBI school-level interventions?

This report provides a summary of evaluation methods, key findings, and recommendations. Findings are presented in four sections: Student Interventions, Capacity-Building and Continuous Quality Improvement, School-Level Impacts, and Intervention-Level Outcomes. The appendices accompanying this report provide more detailed methods and findings for each category.

Methods

The analyses included in this report were conducted using both qualitative and quantitative methods. Qualitative methods, including iterative inductive and deductive coding, were used to categorize and group school-level interventions and to identify prevalent themes in narrative data from SBI schools' written reflections about their capacity-building work. Quantitative methods, including descriptive statistical and quasi-experimental causal inference methods, were used to query possible differences in student outcomes related to interventions. Results should be read with attention to the limitations of these analyses, including use of caution in distinguishing correlational and causal relationships. The specific methods and limitations for each analytical process are detailed in Appendices A-D.

Analyses

1. **Coding SBI intervention dataset by content area.** Data on SBI-funded student interventions is recorded by school staff and shared with DEEL annually. Intervention data for SY 2022-23 were coded to reflect content areas that share similar subject matter and address the same outcomes, along with details about implementation settings. Intervention data was linked to participant-level demographic characteristics and academic and attendance trends.
2. **Longitudinal impact analysis of SBI investment on student academic outcomes.** Causal inference (quasi-experimental) observational methods were used to estimate effects of enrollment in SBI schools as an intervention on student academic outcomes. Academic outcomes were evaluated longitudinally by age-group cohorts: 1st-3rd grade, 6th-8th grade, and 9th-12th grade.
3. **Descriptive outcome analysis for SBI intervention participants by content area.** Two methods of pre-post analysis were used to compare outcome trends between SBI intervention participants and non-participants at Levy schools.
    - Analysis of differences in average outcomes for intervention participants in the intervention year compared to the year prior. This trend is compared to students at SBI schools who did not participate in an SBI-funded intervention.

    - Analysis of the degree to which outcomes changed for participants who were previously below target benchmarks for academic performance or attendance.
4. **Qualitative analysis of monitoring and reporting data** regarding school-level capacity building and continuous improvement efforts. School goal-setting and self-reflection data were coded to identify factors that promoted or inhibited success in implementation.

Outcome Measures

- **Smarter Balanced Assessments (SBA)[1] scores in Reading and Math** are used to monitor academic performance for elementary and middle school students. Scores are available for students in 3rd-8th grade.
- **MAP** scores evaluate reading and math progress for elementary and middle school students and evaluate student scores relative to expected growth rates. The share of students who met expected growth was used as an outcome measure for elementary school participants in academic interventions for whom SBA scores are not available.
- **Passing core courses with a C or better** is used as an outcome benchmark for middle and high school students.
- **Attending 90% or more school days** is a benchmark for regular attendance, below which students are considered chronically absent.
- **On-time high school graduation** is defined as students graduating high school within four years. Students who do not meet on-track credit accumulation in 9th grade are considered at risk of not graduating on time.

SBI Implementation: Student Interventions

During the 2022-23 school year (SY 22-23), 50% of students (nearly 8,000) enrolled in Levy-funded schools were participants in one or more SBI-funded interventions. Academic interventions addressing math and reading proficiency were the most common category of interventions.

7,918 students were recorded as participating in an SBI intervention in SY 22-23. This number amounts to about 16% of all SPS students and 50% of students enrolled in the 30 schools participating in the investment. School-Based Investments support three main categories of interventions, described in Table 2 below: academic interventions, enrichment activities, and integrated supports.

Insights from analysis of program participants include the following:

- 88% of participants identified as Black, Indigenous & People of Color (BIPOC) (+10% compared to non-participants at Levy schools).
- Academic intervention participants were more likely (+10%) to be English Language Learners.
- Elementary school students were twice as likely as other age groups served by Levy programs to participate in an academic intervention.
- Enrichment programs were the most common interventions provided to middle and high school students.

[1] https://ospi.k12.wa.us/student-success/testing/state-testing/washington-state-smarter-balanced-assessment-consortium

Table 2: Levy-Funded SBI Intervention Categories

Intervention Categories	% of total Participants (SY 22-23)	Description
Academic Intervention	59% (4,652)	Interventions specifically targeting competencies in **core academic subjects**, typically ELA/Literacy and Math.
Enrichment	46% (3,665)	Interventions not focused on typical core academic topics, and include the following types of activities: • Programs (often implemented by community-based organizations) focused on **cross-curricular learning**, including 21st century skills such as leadership, teamwork, critical thinking, and social-emotional learning. **College and career readiness supports**, including college/career exploration and college preparation.
Integrated Supports (Wraparound)	23% (1,815)	Supporting students and their families who face **barriers to attendance and engagement**. Interventions include student case management and referral programs for families to connect them to basic needs.

A more detailed description of interventions is available in Appendix A.

SBI Implementation: Capacity-Building & Continuous Improvement

School capacity-building efforts included educator instructional practices, family engagement, and staff collaboration/learning communities to support implementation of student interventions. Dedicated staff capacity and systems for staff coordination and accountability were key to success.

Qualitative analysis of school goal-setting data provided insight into common focus areas of school-wide capacity-building goals, implementation strategies, and factors that tended to support or challenge success in meeting intended goals.

The most common goal categories were related to supporting college and career readiness, improving instructional practices, teacher collaboration, and cultivating supportive learning environments for students. Strategies for implementing capacity-building efforts included staff professional learning communities (PLCs) and trainings geared toward high-quality instruction and culturally responsive practices; data-focused teacher collaboration and trainings; family and community engagement activities; and direct student programming to improve social-emotional well-being and school climate. Schools' reflections on their progress toward goals at the end of SY 22-23 revealed the following trends in common supports or barriers to meeting objectives:

- **Enabling factors:** The most common factors supporting goal completion were a school having an existing system in place to support coordination and implementation of goals, having dedicated staff to lead implementation, and holding frequent and consistent meeting touchpoints to facilitate staff collaboration and reflection.
- **Challenging factors**: The most common barriers schools reported in their efforts to implement capacity-building and continuous improvement goals were related to limitations in staff capacity

(including time, knowledge or training, staff buy-in, and challenges with staff coordination across multiple programs/interventions).

Available data did not include enough information to allow for analysis of possible connections between school-wide capacity-building efforts and student-level interventions. A more detailed report of findings is available in Appendix B.

School-level Impacts

Longitudinal impact analysis generally demonstrated positive but non-significant effects of Levy school enrollment on student academic progress across grade levels between the 2018-19 school year and 2022-23 school year, with statistically significant positive results for early elementary math outcomes.

The evaluation team applied causal inference (quasi-experimental) observational methods to evaluate academic impacts of Levy K-12 investments on elementary, middle school, and high school student cohorts. Students who entered their respective grade levels in SY 2018-19 and SY 2019-20 and were below grade level standards were included in the analysis. By isolating the effects of enrollment at a Levy school on student level outcomes, this analysis was the best available method of evaluating the cumulative effect of both student-level and school-level capacity-building efforts that the FEPP Levy supports over time.

Comparing students with similar demographic characteristics across Levy and non-Levy schools and controlling for the effects of student and school-level characteristics on outcomes[2], students enrolled in Levy schools had generally higher odds of moving to grade level standards on Smarter Balance Assessments (SBA), passing core courses, and graduating high school on time.

Table 3. Cohort Analysis Summary: Academic Impact Effect Sizes

Cohort	Outcome	Effect (Odds Ratio)*
Elementary (Class of 2032)	SBA Math, 3rd grade	Positive, non-significant (1.03)
Elementary (Class of 2032)	SBA Math, 4th grade	Positive, non-significant (1.15)
Elementary (Class of 2032)	SBA ELA, 3rd grade	Positive, non-significant (1.19)
Elementary (Class of 2032)	SBA ELA, 4th grade	Positive, non-significant (1.09)
Elementary (Class of 2033)	SBA Math, 3rd grade	Positive, significant (2.01***)
Elementary (Class of 2033)	SBA ELA, 3rd grade	Positive, non-significant (1.14)
Middle School (Class of 2026)	SBA Math, 8th grade	Positive, non-significant (4.65)
Middle School (Class of 2026)	SBA ELA, 8th grade	Positive, non-significant (1.30)
High School (Class of 2022)	C or Better in Core Courses, 12th grade	Positive, non-significant (1.14)
High School (Class of 2022)	On-time HS Graduation	Positive, non-significant (3.38)
High School (Class of 2023)	C or Better in Core Courses, 12th grade	Negative, significant (0.44***)
High School (Class of 2023)	On-time HS Graduation	Positive, non-significant (2.86)

**Odds ratio interpretation: <1: treatment group less likely than control group to achieve outcome. 1: just as likely. 2: 2x as likely.*

****Statistically significant at p<0.001*

[2] Methods employed: 1) Propensity score matching to control for selection bias and compare students who were demographically similar across treatment (Levy) and control (non-Levy) groups, and 2) Mixed effects logistic regression analysis to control for student demographic characteristics and school free- and reduced-price lunch (FRPL) rates. Additional school-level variables were explored for mixed effects models (e.g., school-level exclusionary discipline rate, percent BIPOC educators), but were excluded due to multicollinearity with school free and reduced lunch.

While effects were largely positive, most were not statistically significant (see Table 3). Two exceptions are as follows:

- Among students in the class of 2033 who entered kindergarten below kindergarten ready[3] in SY 2019-20, students enrolled in Levy schools were *twice as likely* as their non-Levy school peers to reach grade level standards in 3rd grade math assessments.
- High school students graduating in 2023 who did not pass all 9th grade core courses showed *lower odds* of passing all core courses in 12th grade if they attended a Levy school.

Due to COVID-related interruptions, assessment data was not available for analysis of academic impacts for upper elementary school students (3rd-5th graders) at the time of this report. Follow-up analysis may be conducted in Q4 2024 on this age group, along with analyses on additional elementary and middle school cohorts. A more detailed report of findings is available in Appendix C.

Intervention-level Outcomes

Descriptive outcome analysis showed modest improvements in SBA assessment scores for participants in SY 22-23 academic interventions compared to no average change for non-participants at SBI schools, with mixed results for other intervention areas. Results suggest that targeted attendance case management, family wraparound support and enrichment programs focused on 21st Century Skills may be promising practices for promoting regular attendance.

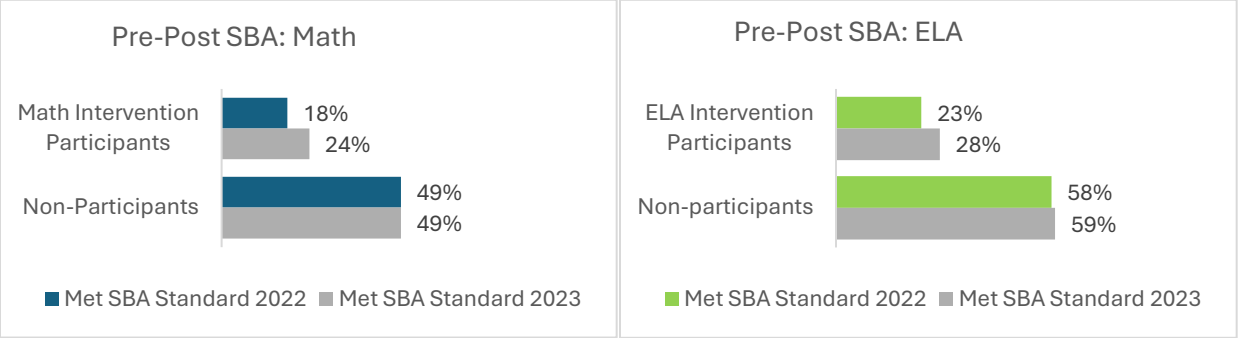
Academic Interventions

Academic interventions typically address math or reading proficiency and other common core subjects. Key outcome trends for participants are below.

- **Participants in SBI-funded ELA and Math interventions saw a modest improvement in SBA assessment results after one year**, **compared to no statistically significant change among non-participants.** The share of math intervention participants who met SBA standards increased from 18% to 24% (+6%) over the course of a year. ELA intervention participants saw a 5% increase in the number meeting SBA standards (a change from 23% to 28% over the course of the year).
- **Academic outcomes improved most for middle school math intervention participants.** The share of participants who met math SBA standards increased by 14% among participants, compared to just 2% growth among non-participants.
- **Participation in an SBI academic intervention was negatively associated with passing core courses for both middle and high school students.** Core course pass rates dropped for all middle and high school students between SY 21-22 and SY 22-23, but intervention participants saw slightly larger declines (by 3-5 percentage points). On average, one quarter of levy-funded intervention participants who did not meet this benchmark in the year prior successfully passed all core course with a C or better in the year they received interventions.
- **Students saw no statistically significant change in MAP achievement between SY 21-22 and SY 22-23.** For both participants and non-participants in elementary school, the share of students who met MAP spring-to-spring growth targets in the intervention year compared to the previous year was virtually the same (no statistical significance). Approximately 45% of participants in reading and math interventions met target MAP growth in their respective subjects.

[3] Below standard in at least one of the six WaKIDS domains.

Figure 1: Pre- and Post-Intervention SBA Performance (Percent Met Standard)



Differences for academic intervention participants were statistically significant at p<0.001.

Enrichment Programs

Enrichment programs focused on co-curricular supports, including social-emotional learning (SEL), cross-curricular development (focused on 21st Century Skills), and college/career exploration. Key outcome trends for participants are outlined below.

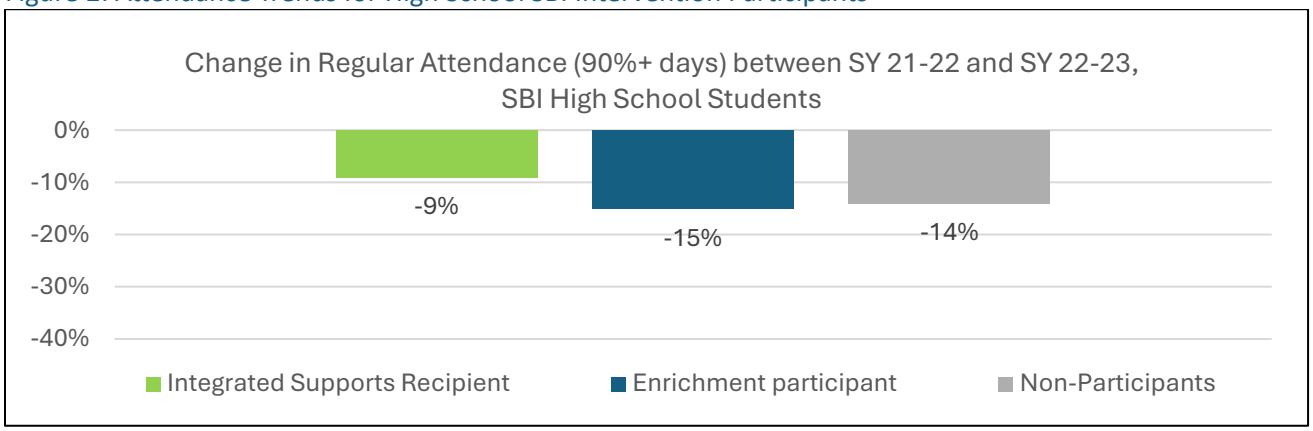
- **Participants in enrichment programs experienced similar patterns in core course pass rates to academic intervention participants.** Participants had slightly lower baseline core course pass rates than non-participants and they were also less likely to show progress over the 1-year intervention period. Core course pass rates dropped for all middle and high school students between SY 21-22 and SY 22-23, but intervention participants saw slightly larger declines (by 2 percentage points). On average, one quarter of levy-funded intervention participants who did not meet this benchmark in the year prior successfully passed all core course with a C or better in the year they received interventions, compared to 30% of non-participants.
- **Unlike participation in academic intervention programs, participation in enrichment programs was not associated with changes in SBA scores.**
- **Elementary school enrichment program participants maintained a higher regular attendance rate than non-participants (+4-8%);** participants' baseline attendance rates were 8% higher and remained constant across the 1-year intervention period, whereas non-participants saw a 4% average increase in regular attendance over the same period.
- **In middle and high school, average attendance trends between participants and non-participants were similar**. Participants in middle school and high school enrichment programs had similar chronic absence rates to non-participants, and both participants and non-participants showed chronic absences increase to a similar extent (+7% in middle school and +15% in high school) between SY 21-22 and SY 22-23. However, among students who were chronically absent in SY 21-22, participants in enrichment programs in SY 22-23 were more likely (by 9 percentage points) to remain chronically absent during the intervention year.
- **This overall trend masked promising attendance outcomes for cross-curricular learning programs, particularly those offered by SBI middle schools.** Participants who were previously chronically absent were more likely, by 5 percentage points, to attend regularly in the intervention year than non-participants experiencing chronic absence.

Integrated Supports

Integrated Supports address attendance and engagement outcomes and include the following content areas: targeted attendance case management, family wraparound services, and care management. Key outcome trends for participants are below.

- **Across the district, chronic absence rates increased sharply across all grade levels between SY 21-22 and SY 22-23, particularly for high school students.** High school students receiving integrated supports had average chronic absence rates of 82% in SY 21-22 and 91% in SY 22-23.
- **Overall, there was a statistically significant negative association between integrated supports participation and attendance outcomes for students who were previously chronically absent.**
- **When looking at results by grade level, high school students showed more promising outcomes.** High school students receiving an integrated support intervention saw regular attendance rates decline less sharply than among non-participants by a margin of 5% (Figure 2).
- **Family-centered wraparound supports appeared more effective than other strategies for reducing chronic absences in elementary school.** Elementary school students whose families received a wraparound service increased regular attendance at a rate three times higher than the general student body.

Figure 2: Attendance Trends for High School SBI Intervention Participants



Bright Spots and Promising Practices

Based on descriptive outcome analysis, the following content areas showed the most promising results:

- **Elementary and middle school academic interventions—particularly middle school math interventions—supporting improvements in SBA assessment performance**: Middle school math intervention participants saw a 14-percentage point increase in the rate of students meeting SBA math standards over the course of one year, compared to a 2-percentage point increase among non-participants.
- **Cross-curricular learning programs for chronically absent students across grade levels**: For students who were chronically absent in SY 21-22, regular attendance in SY 22-23 was 5 percentage points higher among cross-curricular learning participants (28% compared to 23%).
- **Family wraparound supports for chronically absent elementary school students:** Elementary school students whose families received general wraparound supports (such as housing and basic needs referrals), saw a 9 percent increase in regular attendance, compared to a 3 percent increase among non-participants and no significant change among participants in other SBI-funded wraparound supports.

- **Targeted attendance case management for chronically absent high school students:** High school students participating in targeted attendance case management interventions saw average regular attendance rates decline by a smaller margin (-7%) than average high school non-participants (-14%).

Trends by school and student characteristics

To understand whether trends in intervention effectiveness varied by school and student characteristics, the outcome analyses presented above were replicated across grade levels (as shown in the findings above), race/ethnic subgroups and by school. Outcome trends varied significantly by school, highlighting opportunities for continuous quality improvement or future case studies to better understand implementation practices at schools with stronger outcome trends. To preserve sample sizes, subgroup analysis by race was limited to a comparison between students whose identities could be classified as BIPOC[4] or non-BIPOC. Observed changes in outcomes between SBI intervention participants and non-participants varied to some extent by race/ethnicity:

- **Academic Interventions**: Growth in standardized assessment outcomes in ELA and math were consistent across race/ethnic subgroups; however, among high school students participating in academic interventions, BIPOC participants saw greater average declines in rates passing core courses with a C or better than all other subgroups.
- **Enrichment**: Non-BIPOC participants in enrichment programs saw an average 6% increase in ELA assessment scores, compared to no change for non-participants. There was no difference in average reading score growth between BIPOC participants and BIPOC non-participants.
- **Integrated Supports**: Average rates of regular attendance dropped across all subgroups of students except BIPOC recipients of attendance interventions, suggesting these interventions may function as a protective factor for BIPOC students, in particular.

Limitations in Interpreting Student-Level Outcomes

It is important to note that the results above are descriptive statistics examining the correlation between student outcome trends and intervention participation. These comparisons should be interpreted with caution, as they do not establish a causal connection between outcomes and program participation. There are a few factors that may influence comparisons between intervention participants and non-participants at SBI schools:

1. Differences do not include controls for multiple student demographic characteristics. Intervention participants were more likely to identify as BIPOC and English language learners.
2. DEEL has limited information about interventions received by the comparison group. Students in the comparison group may receive similar interventions through other fund sources.
3. Dosage and implementation of SBI-funded interventions in the same content area may vary significantly by school. Intervention data does not include fidelity markers or account for the intensity or duration of programming.
4. Measure reliability: Changes in grading practices for core course passing during COVID and the years following return to in-person instruction makes it difficult to interpret longitudinal trends in core course pass rates.

[4] Black, Indigenous, and People of Color

In addition, short term outcomes for some interventions are either not measured or are not available to DEEL at the student level. For example, enrichment activities are focused on skills and mindsets such as social emotional skills, leadership skills, collaboration, creativity, and critical thinking, which can positively relate to school engagement and academics over time.[5]

For additional details about intervention-level outcomes, including charts and tables, see Appendix D.

Recommendations

Recommended follow-up analysis:

- Impact analysis of SBI enrollment on ELA and Math scores for 3-5th grade cohort when SY 23-24 SBA data is available (Fall 2024). Data interruptions due to COVID did not allow for longitudinal comparisons for this group.
- Regression analysis of student intervention outcomes to control for student characteristics.
- School case studies: identify schools with stronger student outcomes and schools who saw declining outcomes for intervention participants. Seek more information for potential promising practices or pitfalls to be mindful of to inform future investment strategies.
- School-level cohort analysis suggests that intervention gains may occur over a longer period of time. To better understand how SBI interventions contribute, it may be beneficial to revisit outcomes for the same group of SY 22-23 participants after the conclusion of SY 23-24, and to examine outcomes for students who receive the same intervention content for multiple years.
- Interaction analysis examining outcomes for students who participate in multiple interventions and seeking to understand what interventions are commonly combined. This includes interventions funded by other Levy investments.

Implementation and continuous quality improvement recommendations:

- Share school-level results with schools and engage in CQI conversations about how to continue boosting the effectiveness of interventions.
- Work with schools to connect goals more explicitly to program implementation and student-level outcomes when applicable, to enable more effective fidelity monitoring and evaluation.
- If promising practices for supporting implementation effectiveness are identified in follow up analysis, DEEL should promote these approaches in future iterations of K-12 investments.

[5] Durlak, J. A., Weissberg, R. P., Dymnicki, A. B., Taylor, R. D., & Schellinger, K. B. (2011). The impact of enhancing students' social and emotional learning: A meta-analysis of school-based universal interventions. *Child Development, 82*(1), 405–432.
Feldman, A. F., & Matjasko, J. L. (2005). The role of school-based extracurricular activities in adolescent development: A comprehensive review and future directions. *Review of Educational Research, 75*(2), 159–210.
Lauer, P. A., Akiba, M., Wilkerson, S. B., Apthorp, H. S., Snow, D., & Martin-Glenn, M. L. (2006). Out-ofschool-time programs: A meta-analysis of effects for at-risk students. *Review of Educational Research, 76*(2), 275–313.

APPENDIX A: SBI Intervention Analysis

Methods

Data on SBI-funded student interventions is recorded by school staff and shared with DEEL annually. DEEL has access to student-level information about participants in programs funded by the FEPP Levy through our data-sharing agreement with SPS. The dataset includes high level information about the content focus of the intervention, the implementer, and the academic performance, attendance, and demographic data about students who receive the interventions. Though similar interventions are implemented across schools, naming conventions in the current dataset make it challenging to conceptually group interventions. Intervention data for SY 2022-23 were coded to reflect content areas that share similar subject matter and address the outcomes, along with details about implementation settings. Coding of intervention data was guided by an implementation framework co-developed by DEEL Performance & Evaluation team and K-12 program advisors who work directly with SBI schools.

Limitations:

- Intervention data quality: Coding relied primarily on the narrative program descriptions entered by schools in the intervention dataset, some of which were brief or incomplete. It is possible that coding of some interventions was not fully accurate due to missing information.
- This coding process relied on extant data and did not include a review process with program implementors to confirm the subject matter and intended outcomes of interventions. The intervention-outcome framework developed in this analysis would benefit from confirmatory engagement with implementors at SBI schools who have designed the interventions.

Student-Level Interventions

SY 2022-23 Student Intervention Content

In SY 22-23, approximately 8,000 students received an intervention through School-Based Investments. This was about 16% of all SPS students and 50% of students enrolled in the 30 schools participating in the investment. School-Based Investments funding supports three main categories of interventions, described in Table A1, below: academic interventions, enrichment interventions, and integrated supports.

Table A1: Levy-Funded SBI Intervention Categories

Intervention Categories	**% of total Participants (SY 22-23)**	**Description**
Academic Interventions	59% (4,652)	Interventions specifically targeting competencies in **core academic subjects**, typically ELA/Literacy and Math.
Enrichment	46% (3,665)	Interventions *not* focused on typical core academic topics, and include the following types of activities: • Programs (often implemented by CBOs) focused on **cross-curricular learning**: 21st century skills such as leadership, teamwork, critical thinking, and social-emotional learning. • **College and career readiness supports**, including college/career exploration and college prep.

Integrated Supports (Wraparound)	23% (1,815)	Supporting students and their families who face **barriers to attendance and engagement**. Interventions include student case management and referral programs for families to connect them to basic needs.

In SY 22-23, 4,652 students (approximately 30% of the SBI student population) participated in an academic intervention. 50% of Levy-supported students (students participating in one or more Levy-funded interventions at an SBI school) participated in at least two interventions, 13% participated in 4 or more interventions. Each of the three main intervention categories are comprised of distinct content areas, described in Table A2.

Table A2: SBI Funded Intervention Content Areas (Subcategories)

Intervention Content Areas	Description	Number of students
Academic Intervention		
Academic Support: ELA/Literacy	Small-group and 1-1 interventions addressing literacy.	2,906
Academic Support: Math	Small-group and 1-1 interventions addressing literacy.	2,182
Academic Support: General	Interventions either addressing both ELA and Math or generally supporting academic progress.	776
Academic Support: Other Core Subjects	Academic support in core subjects such as science.	18
Advanced Coursework	Support for access to advanced course-taking opportunities.	286
Enrichment		
College/Career Exposure & Exploration	Programs offering hands-on learning about career options or subject matter, or programs aimed to increase awareness about college pathways and support college-going culture.	1,642
College/Career Preparation	College advising and application/financial aid support, or programs developing technical skills explicitly focused on career preparation or employment, such as interviewing, job applications, financial literacy, etc.	982
Cross-curricular learning	Enrichment activities that support critical thinking skills, goal setting, leadership, teamwork, or multiple skills. Programs include arts-based programming, sports, leadership programs, and some culturally specific and responsive programming. and responsive programming can fit into this category.	1,512
School Climate & Culture	Interventions supporting positive school climate through growth in identity & belonging, student agency, and relationships with trusted adults. Examples include student equity teams or interventions supporting peer-to-peer inclusion.	184
School Transitions/ Vertical Alignment	Programs supporting youth transitions between grade levels and/or schools. Examples include summer bridge and peer mentorship programs for incoming students.	167

SEL & Restorative Practices	Enrichment activities, restorative practices, or other interventions addressing social-emotional skills and mental health.	609
Integrated Supports (Wraparound)		
Attendance	Interventions specifically addressing chronic absences through targeted student case management and coordination of relevant family wraparound supports.	579
General Wraparound Support	Interventions focused on providing families with wraparound services or as-needed referrals to support basic needs, absent an explicit focus on student attendance or academic goals.	298
Care Management	Extended, relationship-oriented 1-1 case management for students that includes one or more focus areas beyond attendance and wraparound supports (e.g., academic goal-setting, SEL, 21st Century skills, etc.). May include family engagement and collaboration.	643
Family/Community Engagement	Interventions specifically focused on engaging families in student academic experience, such as student-led parent-teacher conferences, family engagement around educational resources, and family engagement in school processes or policies.	431
Total		**7,918**

Implementation Setting & Grade Level

Intervention settings were coded in alignment with the Washington State Board of Education's definition of instructional hours as "all time in a school day from the beginning of the first scheduled class period to the end of the last scheduled class period, reduced by time actually spent for meals."[6] Interventions that took place during the school day (with the exception of mealtimes) were categorized as Instructional Day interventions, while interventions taking place any other time were categorized as Out-of-School-Time (OST) interventions. Interventions that operated both during and outside of the school day were categorized as belonging to both categories. Interventions only operating in the summer were also categorized separately from other OST interventions.

About one-quarter of school-level interventions involved partner organizations whose staff members participated in implementation (most often with close coordination with, if not supervision by, school staff). Common partner organizations included City Year, University Tutors in Seattle Schools (UTSS), Team Read, and Seattle Parks & Recreation. School interventionists or support staff were commonly involved in implementation, including Family Support Workers and Counselors. For nearly all interventions, regular school staff—including teachers and/or administrators—were in some way involved with implementation work.

Elementary school students were twice as likely as other age groups served by Levy programs to participate in an academic intervention. Enrichment programs were the most common interventions provided to middle and high school students. Integrated supports, which address student barriers to attendance, engaged a similar share of students across grade levels (21-26%).

[6] https://www.sbe.wa.gov/faqs/instructional_hours

Figure A1 (a-b). SBI Implementation Setting and Grade Levels: Academic Interventions

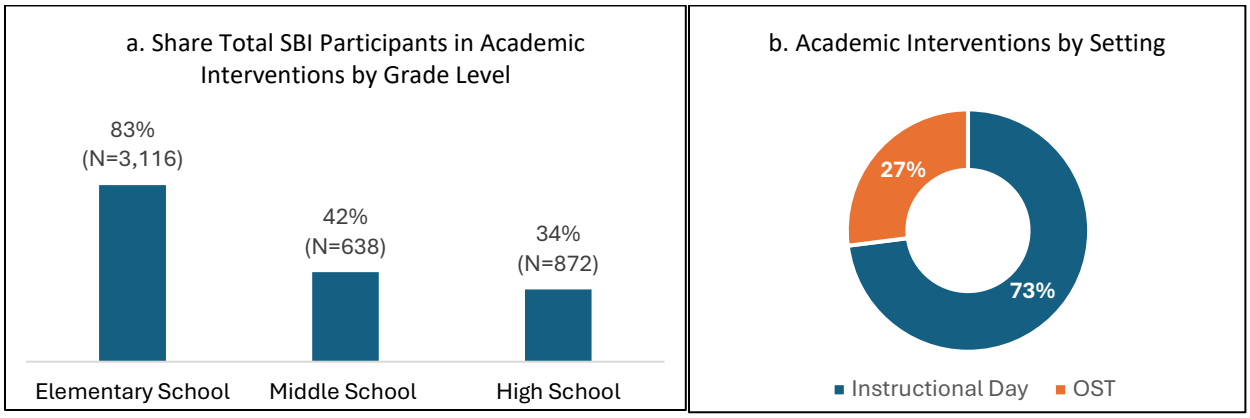


Figure A2 (a-b). SBI Implementation Setting and Grade Levels: Enrichment Activities

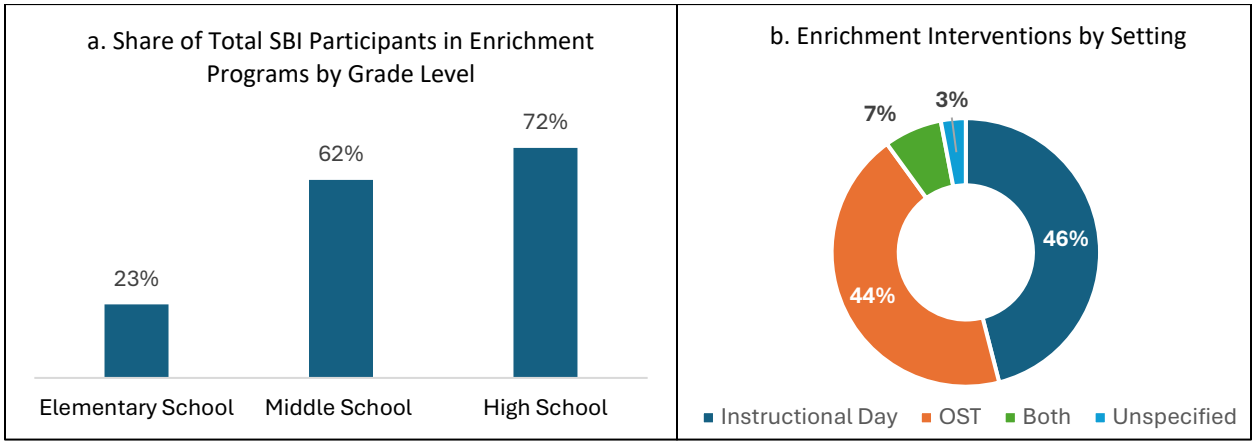
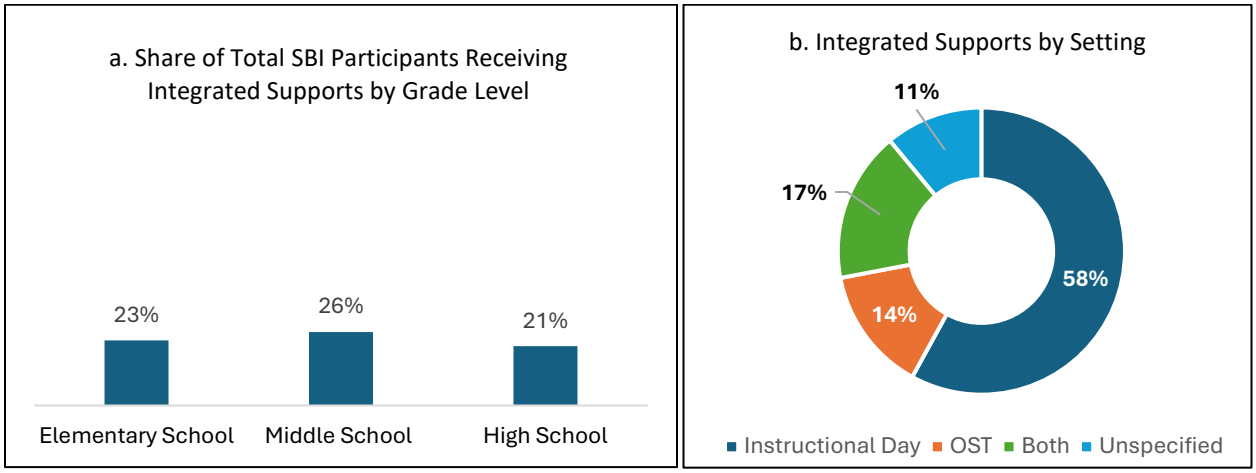


Figure A3 (a-b). SBI Implementation Setting and Grade Levels: Integrated Supports



Participant Demographics

Levy-funded interventions aim to serve students furthest from educational justice who demonstrate higher academic support needs to support Levy goals of closing race-based opportunity gaps and raising on-time high school graduation. 88% of participants identified as Black, Indigenous & People of Color (BIPOC) (+10% compared to non-participants at Levy schools). Academic intervention participants were more likely (+10%) to be English Language Learners (ELL), while enrichment and wraparound supports engaged the same rate of ELL students as non-participant groups.

Table A3. Demographic Characteristics of Intervention Participants

	Academic Intervention		**Enrichment**		**Integrated Supports**	
	Participants	*Non-Participants*	*Participants*	*Non-Participants*	*Participants*	*Non-Participants*
BIPOC	88%	77%	84%	79%	89%	79%
ELL	44%	26%	31%	32%	33%	32%
Unhoused	<1%	<1%	<1%	<1%	0%	<1%
Special Education	13%	14%	13%	14%	16%	14%

Participants in SBI interventions displayed lower baseline academic performance and attendance than their non-participating peers (see Table A4, below). For example, academic intervention participants met reading (ELA) and math Smarter Balanced Assessment standards at half the rate of non-participants in the year prior to participating. Similarly, 35% of students receiving an Integrated Supports intervention, which targeted attendance, attended at least 90% of school days, compared to 64% of their peers.

Table A4: Baseline Outcomes in Pre-Intervention Year (SY 21-22)

	Academic Intervention		**Enrichment**		**Integrated Supports**	
	Participants	*Non-Participants*	*Participants*	*Non-Participants*	*Participants*	*Non-Participants*
SBA ELA met standard	32%	62%	49%	56%	35%	56%
SBA Math met standard	27%	50%	38%	46%	29%	45%
Passed Core Courses with C or better	68%	78%	72%	78%	43%	79%
Regular Attendance (90%+)	59%	63%	60%	62%	35%	64%

APPENDIX B: Analysis of Capacity-Building and Continuous Quality Improvement Strategies

Overview

In order to ensure quality program implementation, schools are asked to set goals around improving adult practices that have either direct or indirect impact on the effectiveness of student supports. Schools engage in an annual cycle of goal-setting, assessment, and reflection, recorded in goal-setting workbooks.

Focus areas for schools' goals include college and career readiness (CCR) and each domain in the 5 Essentials Framework: Ambitious Instruction, Collaborative Teachers, Effective Leadership, Involved Families, and Supportive Environment. A longitudinal study based on work from the University of Chicago Consortium on Chicago School Research[7] indicated that schools that are strong in at least three of five categories they call "Essential Supports" are ten times more likely to show significant gains in student outcomes than those who are not. Using a framework based in this research, Program Advisors work with schools to align goals to their Continuous School Improvement Plans (CSIP), Levy interventions, and areas of need identified by Student Climate Survey data. Program Advisors also work with schools to identify professional learning opportunities that are likely to lead to improvement in their chosen goal categories. SBI supported professional learning opportunities are structured to align to research that connects improved instruction and student outcomes to professional learning that supports teachers' day-to-day practice, provides ongoing accountability for change and improvement[8] and links to curriculum materials and standards they regularly use.[9]

Methods

Qualitative analysis of school goal-setting data addressed the following deep dive question and associated sub-questions:

What success factors/inhibiting factors affect SBI student-and school-level intervention effectiveness?

- Which success/inhibiting factors affect achievement of schools' capacity building and continuous improvement goals?
- To what extent are school-wide capacity building and continuous improvement efforts associated with implementation of SBI targeted interventions?
- To what extent are schools' capacity building and continuous improvement efforts associated with effectiveness of SBI targeted interventions?
- Is there a relationship between schools' capacity-building and continuous improvement efforts and changes in student- or school-level outcomes?

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[7] Bryk, A.S., Sebring, P.B., Allensworth, E., Easton, J.Q., & Luppescu, S. (2010). *Organizing schools for improvement: Lessons from Chicago*. University of Chicago Press.

[8] https://annenberg.brown.edu/sites/default/files/rppl-building-better-pl.pdf

[9] Penuel, W.R., Fishman, B.J., Yamaguchi, R., & Gallagher, L.P. (2007). What makes professional development effective? Strategies that foster curriculum implementation. *American Educational Research Journal, 44* (4), 921-958.

Given limitations in the available data, we were unable to conduct a reliable analysis about the relationships between school-wide capacity-building and continuous improvement efforts and targeted interventions (the latter three questions in the list above). Goal-setting data included narrative reflections that were appropriate for informing Program Advising activities but that did not ask for or consistently solicit information about the connection between capacity-building goals and targeted interventions. Furthermore, while schools' goal-setting and continuous improvement efforts could be thematically categorized, the details of implementation were idiosyncratic enough that these categories were not appropriate to use in a comparative analysis of outcomes. Instead, analysis of school goal-setting data focused on describing and comparing factors that promoted and/or inhibited schools' successful capacity-building efforts.

Coding and Comparative Analysis

We coded goal reflection data from SBI schools for the 2022-23 school year using a coding system with four primary topic areas, each consisting of several thematic codes:

- **Strategy** codes, focused on the principal activity or project related to the goal (e.g., family engagement events);
- **Enabling factors** codes, focused on key aspects of support for implementation of goal work (e.g., partnerships);
- **Accomplishments** codes, focused on broad outcome areas (e.g., improved school climate); and
- **Challenging factors** codes, focused on key barriers to implementation progress or success.

A full round of coding using the existing codebook demonstrated that there was a need to further parse codes related to two challenging factor codes: staff capacity and staff buy-in. These two codes were extremely common and did not capture some of the meaningful nuance present in the reflections data. In addition to developing sub-codes related to these two challenging factors, we used a further round of coding as an opportunity to more explicitly identify *who* SBI schools were identifying as the primary implementors of their goals. In part, this decision was informed by the impression that the goal reflections data was widely variable in how explicitly it identified implementation actors—and, furthermore, our understanding that implementation actors (i.e., primary implementors) is relevant to how we understand any discussion of goal outcomes, challenges, and successes.

A final note about the coding process relates to how we attempted to make sense of the coding in ways that allowed us to consider individual schools as units of analysis, goal focus areas as units of analysis, and school grade levels as units of analysis. When the units of analysis were not of the same size (e.g., there are 19 elementary schools represented in the data, but just 5 high schools), we calculated the average instance of each code per unit of analysis and compared those averages. Given the size of the dataset, we have relied on counts and/or averages of code and code categories to help us describe patterns in the data.

Results

Strategies

The most common goal implementation strategies were College and Career Readiness (CCR) focused programs and interventions, staff professional learning communities, and instruction-focused staff meetings and professional development. Examples of CCR programs include activities like the Aki Community Learning Center's Culturally Relevant Mentoring Programs, which offer students exposure to various career pathways through guest speakers and field trips. Staff professional learning communities were highlighted in goals like providing ongoing, individualized coaching to teachers to support their instructional practices. Instruction-focused staff meetings and professional development were evident in activities such as the monthly professional development sessions on GLAD/language support strategies aimed at supporting multilingual students.

Table B1: School Goal Categories

Code	Frequency
College and career readiness	62
Essential supports: supportive environment	35
Essential supports: involved families	35
Essential supports: collaborative teachers	33
Essential supports: ambitious instruction	28
Essential supports: effective leadership	17

Table B2: Goal Implementation Strategies

Code	Frequency
CCR focused program/intervention/activity	47
Staff Professional Learning Communities	37
Instruction focused staff meetings and PD	29
Family Engagement Events	26
Student leadership opportunities	24
SEL focused curriculum	22
Curriculum implementation and alignment	22
Data focused staff collaboration & PD	21
Culturally responsive staff PD	19
Targeted academic interventions	17
Classroom observations	14
Family and community leadership opportunities	10
Targeted family communication	10
Student-focused staff team meetings	8
Leadership	6
Targeted student communication	5
Providing basic needs and resources	3
Family surveys	3
Home visits	3
Professional development	1

Considering goal reflection data by focus area confirmed that schools chose reasonable primary strategies in alignment with their goal focus areas. For instance, the most common strategies for goals focused on Ambitious Instruction were instruction-focused staff meetings and PD/PLC meetings; the most common strategies for goals focused on Collaborative Teachers were staff PLCs and data-focused staff meetings. Goals focused on Involved Families most often adopted a strategy of hosting a small number (one to three) of family engagement events.

Interagency Schools, John Muir Elementary School, Mercer Middle School, Leschi Elementary School, and Sand Point Elementary School had a greater focus than most schools on goal strategies related to cultural responsiveness and ongoing (versus single event) family engagement. While the general distribution of goal focus areas did not vary greatly by school grade level, one exception was that SBI high schools, on average, focused more on classroom observations as a focus strategy than SBI elementary or middle schools did.

Implementors

Overall, schools that identified someone(s) in a specific support role as the principal implementor(s) of a goal were far more likely to have also identified other people serving in support roles as implementors of at least one other goal. Further analysis of SBI school's FTE data could indicate if there is a direct relationship between having additional FTEs on staff and their designation as principal implementors.

In contrast to participating elementary and middle schools, SBI high schools did not designate any family/community groups or any school-wide leadership teams as principal implementors. The average instances of teachers (in any groupings, including PLC teams) as primary goal implementors was also notably higher for elementary schools than for middle or high schools. While not surprising, it was also notable that students were, on average, more frequently designated as primary implementors for SBI high schools' goals than they were for middle or elementary schools' goals.

Notably, goals focused on Ambitious Instruction, Collaborative Teachers, and Leadership had the fewest instances of having an unidentified principal implementor. In contrast, nearly all goals related to Effective Leadership did not specify a principal implementor. It may be that school staff completing the goal reflections assumed the primary implementor of Effective Leadership were implicitly understood (i.e., we might assume that school administrators would be most likely to be the implementors for these goals); this may be a topic to revisit in considering future data collection requests and CQI activities.

Another observation from coding goal implementors was that goals related to a CCR focus had a more even distribution of principal implementor responsibilities between teachers and students and a higher instance of external partners as principal implementors compared to goals in the other focus areas.

Enabling Factors

The most common enabling factors identified in the school goal data included having a system in place, dedicated staff, and structured meeting time. These factors were identified by schools as critical for achieving set goals. For example, having a system in place supports organized processes, such as teams using data-driven assessments for academic and social-emotional supports. Dedicated staff ensures consistent support, like instructional coaches providing individualized coaching. Structured meeting times enable focused professional development, such as weekly training sessions for instructional assistants. These factors provide the necessary structure, personnel, and collaboration opportunities to implement school goals effectively.

Table B3: Enabling Factors for Meeting Goals

Code	Frequency
System in place	93
Dedicated staff	65
Structured meeting time	41
Partnerships	29
Multiple means of engagement	19
External facilitators	15
Technology	4
Incorporating multiple languages	2
Leadership	2
None	1
Target academic interventions	1

West Seattle Elementary School, Wing Luke Elementary school, and John Muir Elementary School indicated that their work was enabled by external partnerships more than other schools did. Chief Sealth High School, Cleveland High School, Dearborn Park International School, Denny Middle School, John Muir Elementary School, Mercer Middle School, and Wing Luke Elementary School noted the significance of dedicated staff in enabling their goal work more so than other schools did. Lastly, some schools did not identify many enabling factors (compared to other schools); these included Interagency Schools and, to a lesser extent, Washington Middle School.

Goals related to Involved Families benefitted more, relative to other factors, from the mere establishment and articulation of the goal and attempts to establish or maintain a system to enact the goal(s). A common enabling factor for all goal focus areas—but in particular for goals related to Collaborative Teachers, Supportive Environments, and CCR—was having dedicated staff/faculty to lead those efforts (e.g., having a school social worker to lead the care management team). Enabling factors did not differ by school grade levels in any notable ways.

Accomplishments

Trends in accomplishments are not included in this summary because of limitations in the available dataset. For example, some reflections discussed artifacts that were not available, and some described what seemed like meaningful progress but stopped short of articulating a specific outcome. Analysis of accomplishments aimed to identify if there were observable connections between school strategic goals and either a) the implementation of student-level interventions or b) school climate outcomes. School strategic goals did not reveal meaningful connections to student-level interventions, and connections to school climate survey topics were not consistent. While some goals were appropriately related to school climate survey topics (e.g., a goal about increasing opportunities for student leadership), others were less salient (e.g., a goal about implementing a curriculum in just two classrooms as a pilot).

Challenging Factors

Staff capacity and staff buy-in were the most common challenging factors for nearly all schools, followed by cross-program coordination. Examples of these challenges include scheduling and time constraints for professional development, which impacted staff capacity. Issues with staff buy-in were observed when some staff were reluctant to adopt new teaching methods, leading to inconsistent implementation

across classrooms. Additionally, schools faced challenges with cross-program coordination, an example being integrating different professional development needs across programs, which required additional resources and scheduling adjustments.

Table B4: Barriers to Achieving Goals

Code	Frequency
Staff Capacity	139
Staff buy-in	64
Cross program coordination	30
Technology	4
Other	2
Participation unrelated to COVID-19	2
Participation related to COVID-19	1

Some notable variations for specific schools include:

- Stanislo Elementary, South Shore K-8, Franklin High School, and Lowell Elementary School seemed to have more issues with staff buy-in compared to other SBI schools.
- South Shore K-8 was unique in having relatively very few issues with staff capacity, despite the relatively high instance of challenges related to staff buy-in.
- Robert Eagle Staff Middle school seemed to have the most challenges related to coordinating goal work/activities across other school programs and schedules.

There was no meaningful difference in the different challenging factors experienced when looking at the data by school grade levels.

While staff capacity and staff buy-in were by far the most common implementation challenges, both challenging factors were more frequently an issue with respect to Effective Leadership goals. Staff capacity presented the greatest challenge, on average, to goals concerned with Ambitious Instruction while staff buy-in presented the greatest challenge to goals related to Collaborative Teachers.

We conducted additional coding to identify more detailed nuances involved with issues of staff capacity and buy-in. Results from this analysis demonstrated that the most common issues related to staff capacity were general issues with scheduling or time and having insufficient supports in place for implementation efforts. The most common issues related to staff buy-in were staff having variable mindsets or habits and, perhaps relatedly, inconsistencies in implementation efforts.

On average, middle schools had more staff capacity issues juggling goal implementation work with other demands and challenges. This fact helps makes sense of the observation that middle schools also had, on average, more difficulties with inconsistent implementation as a function of staff buy-in. On the other hand, high schools had, on average, more staff capacity issues related to differentiated staff mindsets and habits than middle or elementary schools. Additional coding showed that no schools experienced staff capacity issues related to insufficient implementation support or monitoring in relation to their Ambitious Instruction goals. However, this same staff capacity issue was the *most* common issue for goals focused on Collaborative Teachers. Further exploration could help identify the particular implementation supports needed for the kinds of collaborative efforts SBI schools are undertaking. Of note, Collaborative Teachers goal data reflected the fact that issues of staff buy-in relative to these goals more commonly involved needs for developing PLC mindsets and cultures

APPENDIX C: School-Level Impact Analysis

Methods

Causal inference (quasi-experimental) observational methods were used to estimate effect of enrollment in Levy schools as an intervention on student academic performance. Evaluating the overall impact of Levy school enrollment is the best available way to observe the longitudinal effects of both student-level interventions and the school-level strategies supported by the Levy, such as quality improvement efforts in instructional practices, educator capacity, and school climate. Note that school level effects also reflect contributions of Levy interventions outside the SBI investments, such as school-based health centers.

Analysis was designed to address the following questions about academic impacts across grade levels:

1. **Elementary:** Among SPS students who enter elementary school below kindergarten ready, are students enrolled in Levy-funded (SBI) schools more likely to attain proficiency in math and reading by 3rd grade or 4th grade compared to similar non-Levy (non-SBI) school students?
2. **Middle:** Are students who enter 6th grade not having attained 5th grade SBA math or reading proficiency more likely to attain proficiency in math and reading by 8th grade if enrolled in Levy-funded (SBI) schools, compared to similar students enrolled in non-Levy (non-SBI) middle schools?
3. **High:** Among students who don't demonstrate on-track credit accumulation in 9th grade, are students enrolled in Levy-funded (SBI) high schools more likely to graduate high school on time (in 4 years) than students enrolled in non-Levy funded (non-SBI) high schools?
4. **High:** Among students not passing all core courses with a C or better in 9th grade, are students enrolled in Levy-funded (SBI) high schools more likely to pass core courses in 12th grade than similar students enrolled in non-Levy funded (non-SBI) schools?

The following statistical methods were used:

- **Propensity Score Matching (PSM**): This method addresses sample differences in student demographic characteristics and baseline academic outcomes between the treatment group (students at SBI schools) and control group (students at non-SBI schools). PSM balances differences, reduces bias, and compares outcomes between similar students across the two samples. Average Treatment Effect for Treated (ATT) estimate and matching method optimal full match were conducted in R and used to estimate PSM weights.
- **Hierarchical Logistic Regression (Mixed Effects):** This model enables inclusion of controls for school-level factors, in addition to student-level characteristics, when estimating impacts of the treatment.

A total of 8,966 K-12 students were included in the study belonging to (2) cohorts: 2018-19, 2019-20. Longitudinal student outcomes were analyzed for elementary, middle, and high school grade spans. Elementary outcomes examined third and fourth-grade SBA math and reading proficiency (L3 or L4). Similarly, 8th grade SBA math and reading proficiency was examined for a single middle school cohort (2018-19). Due to limited data availability, middle school outcomes for 2019-20 were excluded. High School outcomes included on time graduation (within 4-years) and passing all 12th grade Core courses (C or better).

Table C1: Student Samples Included in Study, All Cohorts (2018-19, 2019-20)

	Elementary	Middle (2018-19 Only)	High School
Total Students (unduplicated)	***2,250***	***1,187***	***4,830***
SBI Enrolled	806	530	1756
Non-SBI Enrolled	1,444	657	3074
Male	1,309	567	2,273
Female	941	620	2,557
Students Furthest from Educational Justice (FEJ)	828	540	1,370
BIPOC	1,425	842	2579
English Language Learner	689	14	468
Special Education	479	316	521
McKinney Vento (Homeless)	73	<10	137

Limitations

- Shifts in SBA assessments and testing modalities[10] due to the pandemic occurred during the study period. This analysis was not able to account for possible implementation impacts in SBA math and reading proficiency.
- While existing research finds kindergarten readiness to be a significant predictor of later achievement (3rd and 4th grade SBA scores), WaKIDS and SBA administrative data are not without bias. WaKIDS scoring can be impacted by factors and bias related to the observational aspects of this assessment.
- Several school-level variables for were explored for mixed effects models (e.g., school-level exclusionary discipline rate, percent BIPOC educators) but were excluded due to multicollinearity with school free and reduced lunch.
- Extreme caution should be used when interpreting outcomes of students not on track in 9th grade (both cohorts) due to small sample sizes. This analysis was unable to pool samples due to lack of existing empirical evidence estimating similar intervention school-level treatment effects during the covid-19 pandemic. Future analyses should consider partially pooled PSM[11] to reduce bias in unmeasured school-level factors.
- The current study did not account for possible community protective factors or school-level factors and may warrant additional analyses that consider qualitative and other data to contextualize student outcomes during the study period.

[10] Modalities include computer adaptive questions, no inclusion of writing or explanation of answers (Seattle Public Schools).
[11] Lee, Y., Nguyen, T. Q., & Stuart, E. A. (2021). Partially pooled propensity score models for average treatment effect estimation with multilevel data. Journal of the Royal Statistical Society. Series A: Statistics in Society, 184(4), 1578–1598. https://doi.org/10.1111/rssa.12741

Results

Elementary School: School Based Assessments

Among SPS students who enter elementary school below kindergarten ready, are students enrolled in Levy-funded schools more likely to attain proficiency in math and reading by 3rd grade or 4th grade compared to similar non-Levy school students?

This analysis was conducted on two cohorts of elementary school students. Class of 2032 (kindergarten cohort 2018-19) included 1,231 total students, and class of 2033 (kindergarten cohort 2019-20) included students. Approximately 1,019 36% of students in each cohort were enrolled in SBI elementary schools and 64% enrolled in non-SBI schools during the study period. Only students who entered kindergarten below WaKIDS readiness standards and have SBA test scores on record were included in the samples.

Findings indicate:

- Class of 2032[12] entering SBI elementary schools below kindergarten readiness standards[13] in SY 2018-19 showed slightly higher odds of being at grade level proficiency in Math and ELA in 3rd and 4th grade compared to their non-SBI peers (not statistically significant).
- SBI students in the following cohort (Class of 2033) were twice as likely to move to 3rd grade math proficiency (statistically significant effect). The effect of SBI enrollment on 3rd grade reading proficiency was positive but below statistical significance.

Table C2. Effect of SBI School Enrollment on Elementary School Math & ELA Proficiency (SBA "Met Standard") Among Non-Kindergarten Ready SPS Students. Results presented as odds ratios.

	Elementary Cohort 1: Class of 2032 (SY 2018-19 Kindergarten) *N=1,231*				***Cohort 2: Class of 2033 (SY 2019-20 Kindergarten)*** *N=1,019*	
	Model 1	Model 2	Model 3	Model 4	Model 5	Model 6
	3rd Grade Math Proficiency	3rd Grade Reading Proficiency	4th Grade Math Proficiency	4th Grade Reading Proficiency	3rd Grade Math Proficiency	3rd Grade Reading Proficiency
(Intercept)	1.45**	0.83	1.40*	0.97	2.28***	1.33
SBISchool[1]	**1.03**	**1.19**	**1.15**	**1.09**	**2.01*** **	**1.14**
GenderID (Female)	0.65**	1.01	0.84	1.14	0.38***	0.85
FEJ Students[2]	0.24***	0.37***	0.19***	0.37***	0.19***	0.18***
ELL Status[3]	0.84	0.68**	0.94	0.59***	1.36	0.70*
Homeless Status	0.08***	0.10***	0.06***	0.05***	0.19*	0.53
SchoolFRPL[4]	0.96	0.78	0.64	0.78	0.18***	0.74
Statistical significance levels * p < .05 ** p < .01 *** p< .001.						

[1] Treatment
[2] Students Furthest from Educational Justice includes: Latinx, Black/African American, Native Hawaiian or Pacific Islander, Native American.
[3] ELL Eligible and Served.
[4] School percent of students receiving free and or reduced lunch for the school year in which outcome variable corresponds to. For example: Class of 2032, school FRPL for SY 2021-22 were derived when estimating 3rd grade math outcomes.

[12] Baseline year SY2018-19)
[13] Meeting standards in fewer than 6/6 WaKIDS domains

Middle School: School Based Assessments

Are students who enter 6th grade not having attained 5th grade SBA math or ELA proficiency more likely to attain proficiency in by 8th grade if they attend a SBI school, compared to students enrolled in non-SBI middle schools?

Due to pandemic interruptions to SBA administration, outcome data were available for analysis on a single middle school cohort: class of 2026 (5th graders in 2018-19). This cohort includes 530 students enrolled in SBI schools and 657 students in non-SBI schools.

Findings indicate that for students below 5th grade math proficiency, enrollment in an SBI middle school showed positive but non-statistically significant effects on 8th grade math and ELA proficiency, controlling for student demographics, school-level free and reduced lunch, and school building effects (see Table C3, below).

Table C3. Effect of SBI School Enrollment on 8th Grade Math & ELA Proficiency (SBA "Met Standard") Among Students Below Proficiency in 5th grade. Results presented as odds ratios.

	Class of 2026 N=1,187	
	Model 1 N=1,088	Model 2 N=770
	8th Grade Math Proficiency	8th Grade Reading Proficiency
(Intercept)	4.15*	7.81
SBISchool[5]	**4.65**	**1.30**
GenderID(Male)	4.71***	6.40**
FEJ Students[6]	4.94***	6.73*
ELL Status[7]	1.49	6.28
Homeless Status	7.05	7.93
SchoolFRPL[8]	4.4	3.76
Statistical significance levels * p < .05 ** p < .01 *** p< .001.		

[1] Treatment
[2] Students Furthest from Educational Justice includes: Latinx, Black/African American, Native Hawaiian or Pacific Islander, Native American.
[3] ELL Eligible and Served.
[4] School percent of students receiving free and or reduced lunch for the school year in which outcome variable corresponds to.

High School: Core Course Pass Rates and On-Time High School Graduation

Among students who don't demonstrate on-track credit accumulation in 9th grade, are students enrolled in an SBI high school more likely to graduate high school on time (in 4 years) than students enrolled in non SBI schools?

- Class of 2022 (Baseline 2018-19): Students not on track in 9th grade enrolled in SBI high schools, on average, had a positive net odds of graduating high school on time, compared to the counter factual controlling for student demographics and school-level free and reduced lunch (Table C4, Model 1).

- Class of 2023 (Baseline 2019-20): Students not on track in 9th grade, on average, had a positive net odds of graduating high school on time, compared to the counter factual controlling for student demographics and school-level free and reduced lunch (Table C4, Model 3).

Among students not passing all core courses with a C or better in 9th grade, are students enrolled in an SBI high school more likely to pass core courses in 12th grade than students enrolled in non-SBI schools?

- Class of 2022 (Baseline 2018-19): Students not passing core courses (C or better) in 9th grade enrolled in SBI high schools, on average, had a 14% positive net odds of passing core courses in 12th grade, compared to the counter factual, controlling for student demographics, school-level free and reduced lunch (Table C4, Model 2).

- Class of 2023 (Baseline 2019-20): Students not passing core courses (C or better) in 9th grade enrolled in SBI high schools, on average, had statistically significant negative odds (56% less likely) of passing core courses in 12th grade, compared to the counter factual, controlling for student demographics, school-level free and reduced lunch (Table C4, model 4).

Table C4. Effect of SBI School Enrollment on 12th Grade Core Course Pass Rates and On-Time Graduation Among Students Not Demonstrating On-Track Credit Accumulation in 9th Grade. Results presented as odds ratios.

	Class of 2022 N=2,414		**Class of 2023** N=2,571	
	Model 1	Model 2	Model 3	Model 4
	On-time Graduation	Pass Core Courses 12th Grade	On-time Graduation	Pass Core Courses 12th Grade
(Intercept)	18.30***	0.22	3.65	0.17***
SBISchool[1]	**3.38**	**1.14**	**2.86**	**0.44*** **
GenderId(Male)	1.75	0.95	2.15	1.13
FEJ Students[2]	2.18	0.83	1.72	0.54***
ELL Status[3]	0.99	1.39	0.27	0.57**
Homeless Status	0.21**	0.59	0.04***	0.61
School FRPL[4]	0.01*	0.55	11.74	6.40***
Note: Statistical significance levels * p < .05 ** p < .01 *** p< .001.				

[1] Treatment
[2] Students Furthest from Educational Justice includes: Latinx, Black/African American, Native Hawaiian or Pacific Islander, Native American.
[3] ELL Eligible and Served.
[4] School percent of students receiving free and or reduced lunch for the school year in which outcome variable corresponds to. For example: Class of 2022, school FRPL for SY 2021-22 were derived when estimating on time graduation and passing all core courses on 12th grade outcomes.

APPENDIX D: Intervention-Level Outcome Analysis

Methods

The evaluation team conducted a descriptive analysis of pre-post outcome trends by intervention categories. The goal of the analysis was to understand if target outcomes changed for students before and after participating in a Levy-funded intervention.

Coding of intervention data allowed for outcome analysis for groups of students across SBI schools who participated in interventions that were thematically similar and shared target outcomes. Some of the short-term outcomes addressed by SBI interventions are not measured or are not available to DEEL at the right level of aggregation. Examples include social emotional learning, school climate perceptions, and college going culture and awareness. Attendance and academic performance are the two primary outcomes that we can observe within a single intervention year (pre-post). Specifically, the following measures were used to evaluate outcomes:

1. **School Based Assessment (SBA) benchmark scores**: whether or not students met grade-level standards in ELA and Math state assessments.
2. **SBA levels**: student score ranking (and net changes in ranking) by SBA score quartiles (levels 1 through 4), with levels 1 and 2 falling below grade level standards.
3. **Passing Core Courses**: the percentage of students who passed their core courses before and after participating in an intervention.
4. **MAP growth:** the share of intervention participants who met expected growth during the intervention year.
5. **Attendance:** percent of students who attended 90% or more school days (below this level is considered chronically absent). Attending 90%+ days will be referred to as “regular attendance” in this report.

Two methods were used to observe outcomes among SBI intervention participants and compare them to non-participants: a) pre-post differences in outcomes for intervention participants in the intervention year compared to the year prior, and b) SBI participant and non-participant outcomes among students who were below target benchmarks in pre-intervention year. Analysis included paired t-tests to determine the statistical significance of changes in outcomes for the same group of students before and after receiving an intervention and Pearson Chi-Square tests of independence to evaluate the degree of correlation between outcomes and participation in SBI interventions.

Table D1, below, outlines the specific intervention categories, grade levels, and associated outcome groupings assessed and described in this appendix.

Table D1. Observed Outcomes by Intervention Content Area

Content Area	Grade Level	Outcome Measured
Academic Interventions		
ELA Interventions	ES + MS	SBA MAP
Math Interventions	ES + MS	SBA MAP
All Academic Interventions (includes ELA, Math, and General academic interventions)	MS + HS	Passing Core Courses

Enrichment		
All enrichment interventions (grouped), including: - CCR: College & Career Exposure - Cross-curricular learning - SEL & Restorative Practices - School Climate & Culture	ES	SBA Attendance
	MS	SBA Attendance
	HS	Passing Core Courses Attendance
Cross-Curricular Learning	MS + HS	Passing Core Courses Attendance
	ES + MS	SBA Attendance
Integrated Supports		
All integrated supports (grouped), including: - Attendance - Care Management - General Wraparound Supports	All grade levels	Attendance
Attendance Interventions	All grade levels	Attendance
General Wraparound Support	ES + MS	Attendance
Care Management	MS + HS	Attendance

Two categories of intervention were excluded from analysis due to lack of a direct connection to observable outcomes: Family Engagement and School Transitions/Vertical Alignment.

Limitations

- **Dosage and implementation** of SBI-funded interventions in the same content area may vary significantly by school. Intervention data does not include fidelity markers or account for the intensity or duration of programming.
- **Limited information about the counterfactual:** we don't have a comparison group that is known to have received no interventions, and other fund sources may be supporting the same or similar interventions at Levy schools. Therefore, outcome comparisons between Levy-funded intervention participants and non-participants should be interpreted with caution.
- **COVID interruptions:** Due to COVID interruptions, this analysis is focused on one year of intervention outcomes, because baseline results were either not available or limited in the year prior to SY21-22. This year was also a transition year back to in-person instruction, which could have disrupted intervention implementation.
- **Measure reliability**: Changes in grading practices for core course passing during COVID and the years following return to in-person instruction makes it difficult to interpret longitudinal trends in core course pass rates.

Outcomes: Academic Interventions

Smarter-Balanced Assessments (SBA)

Question 1: What percentage of academic intervention participants met grade level standards in the intervention year, compared to the year prior? Does this outcome trend differ from non-participants?

Participants in SBI-funded ELA and Math interventions saw a modest improvement in SBA results after one year, compared to no change in outcomes among non-intervention participants. For example, the share of math intervention participants who met SBA standards increased from 18% to 24% (+6%) over the course of a year (see Table D2, below).

Subgroup analysis of pre-post outcomes by grade level showed that for math intervention participants, grade level mattered. Among middle school math intervention participants, the change in percent of participants who met benchmarks before and after the intervention was 14% ($p<0.001$), compared to just 2% growth among non-participants. On the other hand, there was no statistically significant difference in outcomes for elementary school intervention participants.

Table D2. Paired Sample Comparison of SBA Assessment Results for Intervention Participants and Non-Participants between SY 21-22 to SY 22-23.

	Paired sample	Met SBA Standard 2022	Met SBA Standard 2023	Difference
ELA				
ELA Intervention Participants	1,017	23%	28%	0.05***
Non-participants	4,553	58%	59%	0.01
Math				
Math Intervention Participants	1,002	18%	24%	0.06***
Non-Participants	4,633	49%	49%	0.00

*Statistical significance for difference between SY21-22 and SY22-23: *p<0.05; **p<0.01; ***p<0.001*

Question 2: What share of participants below grade level in math and reading interventions, respectively, moved to grade level after participating in an SBI academic intervention?

Among students below grade level, 17% of ELA and 15% of math intervention participants moved to grade level performance in their intervention year. However, SBI students who did not participate in an SBI intervention were more likely to move from not meeting standards to meeting standards in both subjects.

Table D3. Student Movement from SBA Below Standard to Met Standard between SY 21-22 to SY 22-23

	ELA		Math	
	ELA Intervention Participants	Non-Participants	Math Intervention Participants	Non-Participants
Below Standard (L1-2)	17%	24%	15%	20%
L1	7%	11%	8%	11%
L2	35%	41%	27%	31%

MAP

Question 3: Did participants in SBI-funded academic interventions show improved performance on MAP Reading and Math assessments, compared to non-participants in SBI schools?

Among both participants and non-participants in ELA and Math interventions, the share of students who met MAP growth targets (spring to spring) in the intervention year compared to the previous year was virtually the same (no statistically significant difference). On average, intervention participants had met MAP growth targets at lower rates in SY 21-22 than non-participants: 44% compared to 53%.

Among students who did not meet MAP reading growth targets in SY 21-22, participation in a Levy-funded intervention was negatively associated with meeting MAP targets in SY 22-23: 49% of participants and 65% of non-participants met target growth. The difference in MAP growth achievement between participants and non-participants was not statistically significant.

Small-group literacy interventions (SIPPs, LLI, etc.) were common among the 1st-5th grade age group and were analyzed as their own sub-category of ELA interventions. There was a statistically significant negative association between meeting MAP growth and participating in a Levy small group reading intervention. 42% of small group reading intervention participants met MAP reading expected growth, compared to 50% of non-participants.

Passing Core Courses with a C or Better

Question 4: What percentage of academic intervention participants passed core courses with a C or better in the intervention year, compared to the year prior? Does this outcome trend differ from non-participants?

This analysis is applicable to middle and high school students, for whom we have data on core course pass rates. Findings show that core course pass rates declined across all groups between SY 21-22 and SY 22-23, and that the decrease in core course pass rates was greater among participants in Levy-funded academic interventions.

Table D4. Paired Sample Comparison of Core Course Passing Rates for Academic Intervention Participants and Non-Participants between SY 21-22 to SY 22-23.

	Paired sample	Passed Core Courses 2021-22	Passed Core Courses 2022-23	Difference
Middle				
Academic Intervention Participants	334	72%	63%	-0.09***
Non-Participants	2,125	87%	81%	-0.6***
High				
Academic Intervention Participants	759	66%	55%	-0.11***
Non-Participants	2,924	72%	66%	-0.06***

*Statistical significance for difference between SY21-22 and SY22-23: *p<0.05; **p<0.01; ***p<0.001*

Question 5: Among students who did NOT pass one or more core courses in year prior to receiving an academic intervention, what share passed all core courses in the intervention year? Was there a difference between academic intervention participants and non-participants?

Among students who did not pass core courses in SY 21-22, 32% of middle school participants and 24% of high school participants passed their core courses SY 22-23. This outcome was similar across participants and non-participants. The slight negative correlation between core course pass rates and intervention participation shown in Table D5, below, was not statistically significant for either age group.

Table D5. Core Course Passing Rates among Academic Intervention Participants and Non-Participants Who Did Not Pass All Core Courses in Prior Year (SY 21-22)

	Participants	Non-Participants
	*% passed with C or better**	*% passed with C or better**
Overall	26% (N=92)	28% (N=306)
Middle School	32% (N=31)	32% (N=84)
High School	24% (N=61)	27% (N=222)

*Results computed for students who did NOT pass all core courses in year prior, SY 21-22

Academic Outcomes: Enrichment Interventions

Enrichment activities are focused on skills and mindsets such as social emotional skills, leadership skills, collaboration, creativity, and critical thinking. Programs are aimed at developing these skills and engaging students in hands-on and project-based learning and creative endeavors intend to in turn boost student joy of learning, engagement in school, and apply critical thinking and creative skills to academic endeavors. The outcomes we can observe that are connected to these skills include academic course performance and attendance rates.

Passing Core Courses with C or Better

Question 6: What percentage of participants in enrichment programs passed core courses with a C or better in the intervention year, compared to the year prior? Does this outcome trend differ from non-participants?

Similarly to trends among academic intervention participants, the decrease in core course pass rates was greater among participants in Levy-funded enrichment programs.

Table D6. Paired Sample Comparison of Core Course Passing Rates for Enrichment Activity Participants and Non-Participants between SY 21-22 to SY 22-23

	Paired sample	**Passed Core Courses 2022**	**Passed Core Courses 2023**	**Difference**
Middle School				
Enrichment Participants	573	79%	70%	-0.09***
Non-Participants	1,896	87%	81%	-0.06***
High School				
Enrichment Participants	1,426	68%	60%	-0.08***
Non-Participants	2,257	72%	66%	-0.06***

*Statistical significance for difference between SY21-22 and SY22-23: *p<0.05; **p<0.01; ***p<0.001*

Question 7: Among students who did NOT pass one or more core courses in year prior to participating in an enrichment program, what share passed all core courses in the intervention year? Was there a difference between academic intervention participants and non-participants?

Among students who did not pass core courses in SY 21-22, 24% of enrichment program participants passed their core courses in the following year. Participants were less likely than non-participants to pass all of their core courses in SY 22-23 (see Table D7, below). The negative correlation between core course pass rates and intervention participation was statistically significant for students overall but not for individual grade levels. This may be due to smaller sample sizes.

Table D7: Intervention Year (SY 22-23) Core Course Pass Rates for Students Not Passing all Core Courses in Previous Year by Participation Status in Enrichment Activities

	Enrichment Activity Participants	**Non-Participants**
	*% passed with C or better**	*% passed with C or better*
Overall	24% (N=137)	30% (N=261)
Middle School	26% (N=31)	35% (N=84)
High School	23% (N=106)	28% (N=177)

Smarter Balance Assessments

Question 8: What percentage of enrichment program participants met grade level SBA standards in the intervention year, compared to the year prior? Does this outcome trend differ from non-participants?

This outcome is applicable to elementary and middle school students. Pre-post academic outcomes for elementary school participants in enrichment interventions remained virtually the same, though intervention participants were about 8 percentage points less likely to meet ELA and Math standards than non-participants in both years.

Table D8. Paired Sample Comparison of Percentage of Participants and Non-Participants in Enrichment Interventions Meeting SBA Standards in SY 21-22 and SY 22-23

	Paired sample	**Met SBA Standards 2022**	**Met SBA Standards 2023**	**Difference**
ELA				
Enrichment Participants	1,333	45%	47%	0.02
Non-Participants	4,237	53%	55%	0.02*
Math				
Enrichment Participants	1,368	40%	40%	0.00
Non-Participants	4,267	45%	46%	0.01

*Statistical significance for difference between SY21-22 and SY22-23: *p<0.05; **p<0.01; ***p<0.001*

Attendance Outcomes: Integrated Supports & Enrichment

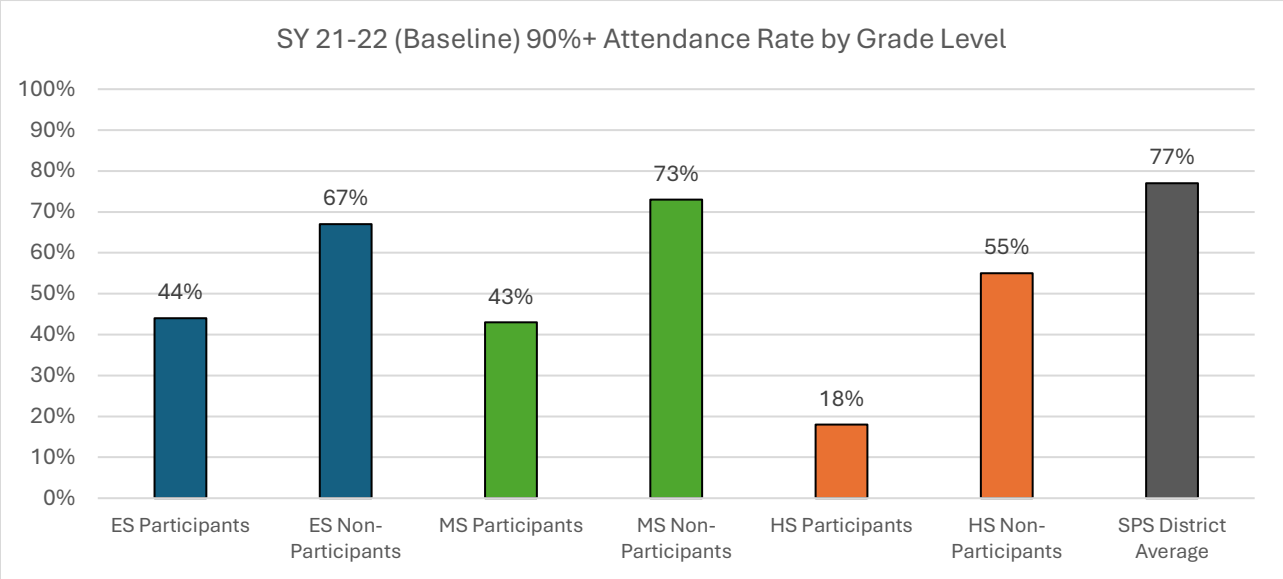
Integrated Supports interventions focused on addressing barriers to student attendance and included general wraparound supports for families (e.g., referral programs to connect families to basic needs resources), and student-focused strategies such as care management, which provide holistic supports for student attendance, engagement and academic progress via dedicated case managers. Patterns in the types of Integrated Supports interventions offered varied by grade level. For instance, SBI elementary schools tended to offer family-oriented basic needs support and resources, whereas high schools (and to a lesser extent, middle schools) focused primarily on interventions related to student care management.

Baseline

Students receiving integrated support interventions had chronic absence rates nearly twice as high as non-participants: 35% of students receiving integrated support interventions in SY 22-23 attended 90%+

of school days in SY 21-22, compared to 64% of students not receiving an integrated support. The chart below shows starting on-track attendance rates by grade level, comparing participants to non-participants.

Figure D1. Baseline (SY 21-22) Regular Attendance Rates by Grade Level



Question 9: Did regular attendance rates increase among students receiving SBI-funded integrated supports interventions? How does this outcome compare to non-participants at SBI schools?

Analysis addressing this question first looked at trends in the Integrated Supports intervention area, followed by evaluation of trends in specific content areas including attendance-focused case management, family basic needs services, and care management.

Pre-post changes: Across all students who received an integrated supports intervention in SY 22-23, there was a 3% decrease in average chronic absence rates compared to the year prior (SY 21-22). Among non-participants, on-track attendance rates decreased by 5 percentage points in SY 22-23.

When examining results by grade level, the picture varies. See Table D9 and highlights below:

- **Elementary:** While no significant pre-post change was observed for participants, regular attendance increased by 3% for non-participants.
- **Middle:** The drop in regular attendance among middle school participants exceeded the drop among non-participants by four percentage points.
- **High:** On-track attendance declined by a smaller margin for participants (9% decrease) compared to non-participants (14% decrease).

Table D9. Paired Sample Comparison of Changes in Regular Attendance Rates based on Participation in Integrated Supports Interventions between SY 21-22 and SY 22-23

	Paired Sample	SY 21-22 90%+ Attendance Rate	SY 22-23 90%+ Attendance Rate	Difference
Elementary				
Any Integrated Support	615	44%	47%	0.03
Family Wraparound Services	159	63%	72%	0.09*
Non-Recipients	4,498	67%	70%	0.03***
Middle				
Any Integrated Support	183	43%	31%	-0.12***
Non-Recipients	3,535	73%	65%	-0.08***
High				
Any Integrated Support	436	18%	9%	-0.09***
Care Management	328	21%	11%	-.10***
Targeted attendance intervention	133	9%	2%	-0.07**
Non-Recipients	3,520	55%	41%	-0.14***

*Statistical significance for difference between SY21-22 and SY22-23: *p<0.05; **p<0.01; ***p<0.001*

For targeted attendance interventions, family wraparound support services, and care management interventions, outcomes were notably different in the following areas:

- **Targeted attendance Interventions:** High school students receiving targeted attendance interventions had extremely high chronic absence rates (91%) in the previous year. The decrease in regular attendance for this group was lower than for other integrated support recipients, but the resulting chronic absence rate for this group was still 98% after receiving an intervention.
- **Family Wraparound Supports:** Elementary school students whose families received general wraparound supports (such as housing and basic needs referrals), saw a 9 percent increase in regular attendance.

Question 10: Did regular attendance rates increase for students in enrichment programs compared to the year prior to the intervention? Does this trend differ from non-participants?

Analysis addressing this question first looked at attendance trends for participants in any enrichment activity, and separately analyzed the largest enrichment subcategories (cross-curricular learning, college & career exposure, and SEL). Results were evaluated for elementary, middle, and high schools separately, due to distinct differences in average chronic absence rates by grade level across the district.

Participants in middle school and high school enrichment activities had similar chronic absence rates to non-participants, and both participants and non-participants showed chronic absence increases of similar scales between SY 21-22 and SY 22-23. Elementary school enrichment participants had higher regular attendance rates than non-participants (+8%) and showed no change pre and post, whereas non-participants saw a 4% average increase in regular attendance over the same period.

Table D10. Paired Sample Comparison of Changes in Regular Attendance Rates based on Participation in Enrichment Interventions between SY 21-22 and SY 22-23

	Paired Sample	SY 21-22 90%+ Attendance Rate	SY 22-23 90%+ Attendance Rate	Difference
Elementary				
Enrichment Participant	751	71%	71%	0.0
Non-Participant	4,362	63%	67%	0.04***
Middle				
Enrichment Participant	869	69%	62%	-0.07***
Non-Participant	2,849	73%	64%	-0.08***
High				
Enrichment Participant	1,494	50%	35%	-0.15***
Non-Participant	2,462	52%	38%	-0.13***

*Statistical significance for difference between SY21-22 and SY22-23: *p<0.05; **p<0.01; ***p<0.001*

Analysis of individual content areas of enrichment activities showed the following trends that differed from the results displayed for overall enrichment in Table D10, above:

- Middle schoolers engaged in cross-curricular learning interventions had similar chronic absence rates to non-participants pre-intervention. The regular attendance rate for the participant group declined by just 5 percentage points, compared to 8 percentage points for non-participants.
- Middle schoolers receiving SEL interventions had much higher chronic absence rates (+20%) than non-participants and middle school SBI students overall. However, their chronic absence rates increased by a greater margin during their intervention year than non-participants. It is possible that this trend is linked to the use of social emotional learning and restorative practices with students involved in exclusionary discipline incidents.

Question 11: Among participants who were chronically absent in the prior year, were integrated supports or enrichment interventions associated with higher rates of regular attendance?

Table D11, below, displays movement from chronic absence to regular attendance among participants in wraparound and enrichment interventions.

Table D11. The Share of Chronically Absent Students in SY 21-22 Who Attended Regularly in SY 22-23, by Levy-Funded Intervention Area and Grade Level

Intervention	Overall difference from non-participants	ES	MS	HS
Integrated Supports Overall	-12%***	25% (N=88)	7% (N<10)	2% (N<10)
Attendance Interventions	-10%***	20% (N=55)	-	<1% (N<10)
Care Management	-17%***	-	10% (N>10)	2% (N<10)
Enrichment Activity	-9%***	36% (N=80)	24% (N=66)	7% (N=49)
Cross curricular Learning	+5%*	42% (N=53)	26% (N=53)	9% (N<10)

*Statistical significance for differences between participants & non-participants: *p<0.05; **p<0.01; ***p<0.001*

Highlights:

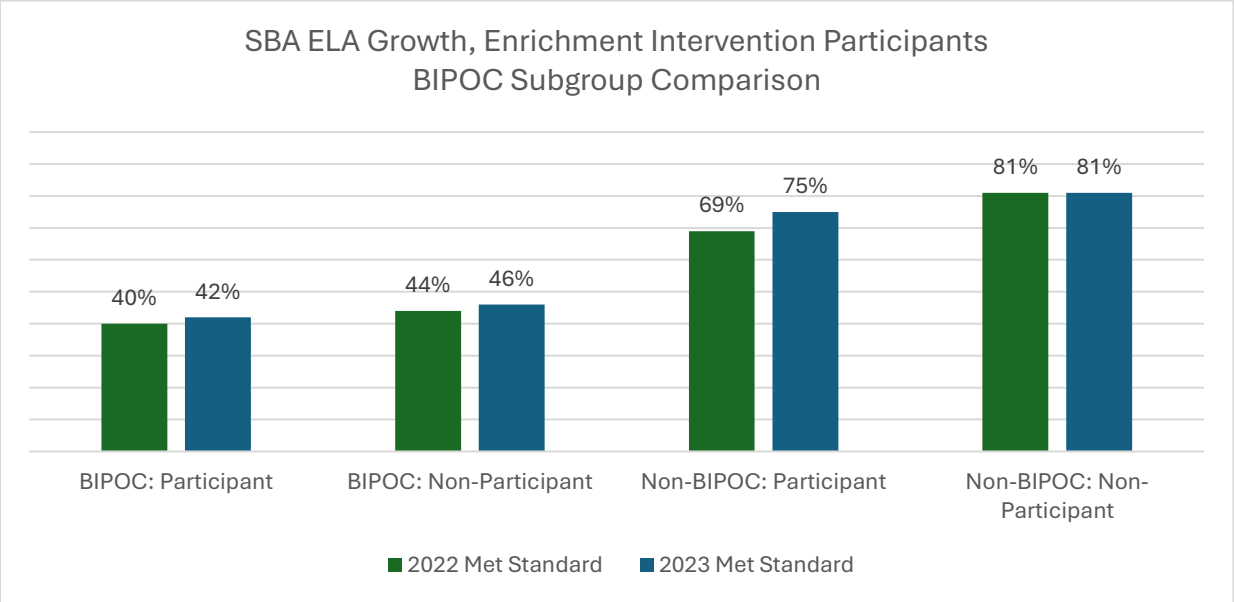
- **Integrated supports overall**: Among intervention participants in any wraparound support in SY 22-23 who were chronically absent in prior school year, rate of regular attendance was 13% for intervention participants and 25% for non-participants.
- **Attendance interventions**: Regular attendance for previously chronically absent students was lower by 10 percentage points among participants receiving targeted attendance case management (14% compared to 24% among non-participants).
- **Cross-curricular learning:** For students who were chronically absent in SY 21-22, regular attendance in SY 22-23 was 5 percentage points higher (statistically significant at $p<0.05$) among cross-curricular learning participants (28% compared to 23%).

Variation by School & Student Characteristics

Question 12: To what extent did outcomes (pre-post changes) vary by school and student characteristics?

To understand whether trends in intervention effectiveness varied by school and student characteristics, the outcome analyses presented above were replicated across grade levels (as shown in the findings above), race/ethnic subgroups and by school. Outcome trends varied significantly by school, highlighting opportunities for continuous quality improvement or future case studies to better understand implementation practices at schools with stronger outcome trends. To preserve sample sizes, subgroup analysis by race was limited to a comparison between students who identified as BIPOC[14] or non-BIPOC.

Figure D2. Percentage Growth in SBA Scores for BIPOC and Non-BIPOC Students by Participation Status between SY 21-22 and SY 22-23



Growth in assessment outcomes (applicable to elementary and middle school students) for academic intervention participants did not vary notably by race/ethnicity. However, among high school students participating in academic interventions, BIPOC participants saw greater average declines in rates passing

[14] Black, Indigenous, and People of Color

core courses with a C or better than all other subgroups. Their rates of course passing dropped by 11 percentage points, compared to 7%, 6%, and 4% for BIPOC non-participants, non-BIPOC participants, and non-BIPOC non-participants, respectively.

Non-BIPOC participants in enrichment interventions saw an average 6% increase in reading (ELA) assessment scores, compared to no change for non-participants. There was no difference in average reading score growth between BIPOC participants and non-participants. Math outcomes did not vary by more than one percentage point across any of the subgroups.

Average rates of regular attendance dropped across all subgroups of students except BIPOC recipients of attendance interventions. While attendance for this group was significantly lower than all other subgroups to begin with, their attendance remained steady between 2022 and 2023.

Figure D3 Percentage Changes in Average Rates of Regular Attendance (90%+ Attendance) for BIPOC and Non-BIPOC Students by Participation Status between SY 21-22 and SY 22-23