

Seattle Preschool Program Evaluation:

Understanding trends in child and educator diversity, child outcomes, and classroom quality

Prepared for the Seattle Department of Education and Early Learning (DEEL)

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About Education Northwest

Education Northwest was founded in 1966 as a nonprofit committed to advancing equity in education. We use evidence to help our partners address educational challenges and improve learning.

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PHOTO CREDIT

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Contents

- About Education Northwest i
- Overview 3
- Stakeholder engagement 4
- Data and methods 5
 - Evaluation questions 5
 - Data sources and sample 5
 - Methods and limitations 6
- Trends and outcomes among SPP children 8
 - SPP enrollment 8
 - Demographic characteristics 9
 - Teaching Strategies GOLD 15
 - WaKIDS 21
- Trends and outcomes among SPP classrooms 25
- Trends and outcomes for the SPP system 28
 - Educator diversity 29
 - Alignment between educator and child demographic characteristics 32
 - Educator time teaching in SPP, retention in SPP, education level, and qualifications 34
- Recommendations 38
- References 41
- Appendix 42

Overview

[The Seattle Preschool Program \(SPP\)](#) serves 3- and 4-year-old children in classrooms throughout the city. The program was founded in 2015 and is offered by the Seattle Department of Education and Early Learning (DEEL). SPP partners with a broad network of preschool providers, including community-based organizations (CBOs), family child care (FCC), and Seattle Public Schools (SPS). Tuition is based on a sliding scale, dependent on income and family size, and many families qualify for free preschool. SPP is funded through the [Families, Education, Preschool, and Promise Levy](#).

Education Northwest partnered with DEEL to evaluate SPP through two interrelated evaluations in 2022 and 2023. This report presents findings from the first evaluation, which analyzes existing data to describe trends and relationships among child, educator, and program characteristics and outcomes. The second evaluation, scheduled for completion in December 2023, will incorporate family, educator, and stakeholder perspectives as well as additional analyses of existing data to determine the impact of SPP on children, families, educators, and the community.



Stakeholder engagement

Stakeholder feedback and engagement is a key part of this evaluation. To ensure the SPP evaluation reflects the values, priorities, and perspectives of families and community members, Education Northwest convenes a SPP Education and Evaluation Advisory Committee (referred to in this report as the Advisory Committee). Fifteen Advisory Committee members—including parents/guardians; external pre-K stakeholders; Families, Education, Preschool, and Promise Levy Oversight Committee member; SPP teachers; administrator/directors; and DEEL staff members—have participated in Advisory Committee meetings in 2022.¹ Between January and August 2022, Education Northwest convened and facilitated seven Advisory Committee meetings and also solicited feedback on the evaluation through email between meetings. The Advisory Committee has provided input and feedback on the evaluation design, data sources, measures, evaluation questions, and report findings.

Education Northwest also conducted a listening session with SPP program directors so they could hear and provide input on the results from the first evaluation. Specifically, SPP program directors provided information on the Teaching Strategies GOLD and child/teacher demographic alignment results. Their input also informed explanations and recommendations in this report.

Lastly, key DEEL staff members reviewed a draft version of this report and provided feedback.

¹ DEEL and Education Northwest used a collaborative three-step process to recruit Advisory Committee members. First, DEEL and Education Northwest identified stakeholder groups that should be represented on the committee. Next, DEEL provided Education Northwest with a list of potential advisory committee members. Third, Education Northwest conducted outreach and final selection of the 15-member Advisory Committee.

Data and methods

This report relies on data collected by SPP for use in administering the preschool program. The authors used a mix of descriptive statistics and regression analysis to answer six questions about SPP.

Evaluation questions

There are three questions focusing on child-level data and outcomes, one question on classroom/program-level data and outcomes, and two questions on system-level data and outcomes. These questions were developed in collaboration with DEEL and incorporate feedback from the Advisory Committee (see previous section for more details).

Child-level questions

1. What are the demographic characteristics of SPP children (race/ethnicity, family income, primary language, and individualized education program [IEP])? How have they changed over time?
2. Do SPP children show developmental progress and kindergarten readiness on Teaching Strategies GOLD (TSG) assessments over time?
3. What is the relationship between participation in SPP and kindergarten readiness among Seattle Public School (SPS) kindergarten students over time, as measured by the Washington Kindergarten Inventory of Developing Skills (WaKIDS) assessment?

Classroom/program-level questions

4. How have SPP classrooms' Classroom Assessment Scoring System (CLASS) scores changed over time?

System-level questions

5. How have SPP teacher qualifications and demographic characteristics changed over time?
6. To what extent have SPP children been educated over time by a diverse educator workforce aligned with child race/ethnicity and linguistic diversity?

Data sources and sample

To answer these evaluation questions, the authors analyzed data from the 2015–16 through 2021–22 school years. DEEL collected the data while administering the program and then provided it to Education Northwest for the evaluation. Data include information on SPP enrollment, demographics,

and assessments; educator demographics and qualifications; classroom characteristics and assessments; and SPS student demographics and assessments.

The analysis includes all SPP children enrolled for 10 days or more from 2015–16 through 2021–22, ranging from 269 to 1,953 children depending on the year. Missing data on certain key elements, such as demographic data, are noted in the results. All SPP classrooms are included in the sample (15 classrooms in 2015–16 to 132 classrooms in 2021–22). For SPP educators, the analysis includes all lead and assistant teachers with demographic and/or qualifications information who were recorded as teaching in a SPP classroom, ranging from 63 teachers in 2016–17 to 236 teachers in 2021–22. Teacher records linked to classrooms were not available in 2015–16.

Methods and limitations

This report uses descriptive statistics such as percentages and averages to show trends across time and by key characteristics (for example, whether the SPP classroom was operated by a CBO, FCC, or SPS). Evaluation questions 3 and 4 use multivariate regression analysis to estimate the relationship between SPP participation, key characteristics, and outcomes.

- In question 3, the authors used a propensity score matching technique to estimate how participation in SPP is related to WaKIDS performance in kindergarten. This ensures that the analysis compares children who participated in SPP with similar children in SPS who did not participate in SPP, matching on demographic characteristics (race/ethnicity, gender, age, whether child is eligible for English learner services, and whether child has an IEP). After matching, we conducted multivariate regression analysis on the matched samples.
- In question 4, the authors used multivariate regression analysis to explore the relationship between CLASS scores in each of the three domains and classroom characteristics of the percentage of children who identify as Black, the percentage who identify as Latinx, the percentage who identify as white, the percentage who speak English as their primary language, and the percentage with a household income below \$30,000 per year. These analyses do not include matching or a comparison to non-SPP classrooms.

These methods, and the data used for the analyses, result in five key limitations:

- *Children with an IEP.* The SPP data do not provide a reliable marker of when a child has an IEP, and thus we do not present analyses that examine this key group.
- *Causality.* The analyses in this report are descriptive and should not be interpreted as proof that participating in SPP caused an outcome. Even where

Recommendation: Begin collecting data on the IEP status of SPP children to inform decisions on how to support children with IEPs.

matching methods were used (such as for question 3 regarding WaKIDS performance), the lack of appropriate matching variables means that the results should not be considered causal.

- *Identifying SPP children enrolled in SPS.* Not all children who participate in SPP enroll in SPS for kindergarten. There is no information available on children who do not enroll in SPS after they leave SPP. For those children who do enroll in SPS, many are correctly identified as SPP participants (that is, their records are matched), but some children are not. We may not be able to match SPP and SPS records if a child was registered with different information (for example, if a child's name is recorded differently with SPS than it was with SPP). This means that some children who enroll in both SPP and SPS are not identified as SPP participants. They are included in the group of "non-SPP" children in the analyses.
- *Understanding other preschool options.* For SPS students who did not participate in SPP, there are no data available on what preschool program (if any) those children participated in. This means that comparisons are between SPP and several other types of programs—or no program at all. This makes it challenging to interpret any results that compare children who participated in SPP to those who did not.
- *Child assessment measures may be biased.* The child assessments used in this study (TSG & WaKIDS) are the primary source of information on the performance and growth of SPP children. However, these assessment measures may be biased, as they may have cultural biases regarding appropriate performance expectations and they are based on teacher observations, which may be influenced by unconscious biases (see TSG results section for more information on potential biases and concerns).

Trends and outcomes among SPP children

This section explores information about SPP enrollment, demographic characteristics over time, Teaching Strategies GOLD progress and readiness, and WaKIDS performance.

SPP enrollment

In the first few years of the SPP program, enrollment increased from 269 in 2015–16 to 970 in 2017–18. Program enrollment was between 1,300 and 2,000 starting in 2018–19 (table 1).



Table 1. SPP enrollment increased as the program expanded from 2015–16 to 2021–22

	Program year							Total unique children
	2015–16	2016–17	2017–18	2018–19	2019–20	2020–21	2021–22	
Number of children enrolled	269	612	970	1,386	1,751	1,660	1,953	6,752

Source: Authors’ analysis of Seattle Department of Education and Early Learning data.

Over time, the percentage of SPP children enrolled at CBOs has decreased—from 77 percent in 2015–16 to 63 percent in 2021–22. Correspondingly, the percentage of SPP children enrolled at SPS preschools has increased, from 23 percent in 2015–16 to 33 percent in 2021–22. FCCs began serving SPP children in 2017–18 and have served 4 percent to 5 percent of all SPP children each year.

The percentage of children enrolled in SPP classrooms with particular program alignments has shifted over time:²

- The percentage of children in SPP-designated dual language classrooms³ increased to reach 12 percent in 2021–22.

² Children can be enrolled in classrooms with multiple program alignments; for example, children can be enrolled in an inclusion classroom that is also an Early Childhood Education and Assistance Program classroom.

³ DEEL provides specific supports to 22 SPP classrooms that participate in the Dual Language Initiative. Dual language classrooms implement the Soy Bilingüe curriculum and receive assessments twice per year administered by the Center for Linguistic & Cultural Democracy. Dual language classrooms designated by SPP may not include all classrooms in SPP that use multiple languages.

- In 2021–22, about 19 percent of SPP children were in designated inclusion classrooms, an increase from 3 percent in 2017–18.
- The rate of SPP children also in the [Early Childhood Education and Assistance Program](#) (Washington’s state-funded preschool program; ECEAP) has stayed relatively steady, between 5 percent and 7 percent from 2017–18 to 2021–22.
- The percentage of SPP children also in Head Start has increased, from 4 percent in 2017–18 to 15 percent in 2021–22.

Demographic characteristics

In 2021–22, about 50 percent of SPP children identified as female and 50 percent as male. Across the years of SPP, the percentage of female children has fluctuated from 46 percent to 51 percent; for male children, rates have been slightly higher, from 49 percent to 53 percent. The number of nonbinary children has remained under 10 each year.

The race/ethnicity of children enrolled in SPP changed slightly over time, and Black children were the largest racial/ethnic group in every year

Since SPP began, children of color⁴ represented over 75 percent of SPP children. Between 2017–18 and 2021–22, the proportion of Asian children in SPP decreased by 8 percentage points, while the proportion of children who were Latinx or white each increased 3 percentage points (table 2). Other racial/ethnic groups had changes of less than 3 percentage points.

⁴ Throughout this report, we use the terms “children of color,” “students of color,” “people of color,” and “teachers of color” to refer to individuals who reported their racial/ethnic identity as American Indian/Alaska Native, Asian, Black, Latinx, Native Hawaiian/Pacific Islander, North African/Middle Eastern, or two or more races.

Table 2. Race/ethnicity of children enrolled in SPP changed slightly over time, 2015–16 to 2021–22

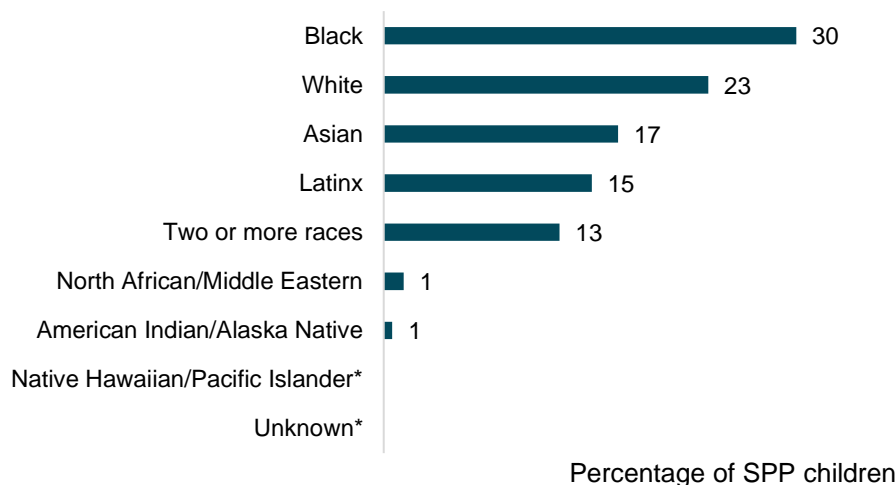
	2015–16	2016–17	2017–18	2018–19	2019–20	2020–21	2021–22	Total number
American Indian/Alaska Native	.	.	.	0.9%	.	.	.	44
Native Hawaiian/other Pacific Islander	.	.	.	0.7%	.	.	0.5%	44
North African/Middle Eastern	.	.	.	1.0%	1.0%	0.9%	1.4%	76
Asian	16.7%	18.0%	24.3%	17.3%	19.8%	18.6%	16.8%	1,614
Black	27.9%	25.3%	28.2%	28.3%	27.8%	28.9%	29.5%	2,439
Latinx	12.3%	15.5%	12.0%	13.6%	13.2%	14.6%	14.9%	1,197
Two or more races	8.6%	15.4%	9.8%	14.1%	13.5%	13.0%	12.6%	1,107
Unknown	.	.	.	3.9%	2.1%	1.2%	.	219
White	24.9%	20.4%	19.8%	20.2%	21.5%	22.1%	23.2%	1,861
Total number	269	612	970	1,386	1,751	1,660	1,953	8,601

Note: Results for certain years for American Indian/Alaska Native, Native Hawaiian/other Pacific Islander, North African/Middle Eastern, and unknown categories are not shown due to small numbers of children.

Source: Authors’ analysis of Seattle Department of Education and Early Learning data.

In 2021–22, Black children comprised the largest racial/ethnic group in SPP (30 percent), followed by white (23 percent), Asian (17 percent), Latinx (15 percent), two or more races (13 percent), Middle Eastern/North African (1 percent), American Indian/Alaska Native (1 percent), Native Hawaiian/other Pacific Islander (less than 1 percent), and unknown race/ethnicity (less than 1 percent; figure 1).

Figure 1. Black children were the largest racial/ethnic group among SPP children, 2021–22



Note: Exact percentages for unknown race/ethnicity and Native Hawaiian/other Pacific Islander are not shown due to small numbers of children. Axis shows the percentage of SPP children in each racial/ethnic group and is scaled from 0 to 50 percent.

Source: Authors’ analysis of Seattle Department of Education and Early Learning data.

Child race/ethnicity varied by site type, with higher proportions of Black children enrolling in FCCs in 2021–22

SPP enrollment by site type varied by race/ethnicity in 2021–22. Black children in SPP enrolled at CBOs at lower rates than all children in SPP (45 percent of Black children compared to 63 percent overall) and at SPS preschools at higher rates than all children in SPP (43 percent of Black children compared to 33 percent overall). In addition, 68 of the 92 SPP children (74 percent) who enrolled in FCCs were Black. Asian children enrolled at SPP CBOs at higher rates than all children in SPP (75 percent of Asian children compared to 63 percent overall). The percentage of SPP children of color was much higher in FCCs—96 percent—than in SPS preschools (78 percent) or CBOs (75 percent).

Recommendation: To ensure continued racial/ethnic diversity, DEEL and SPP providers should use outreach strategies that focus on building trust, two-way communication, and use outreach materials that are understandable and inclusive of the diverse cultures and languages of students and families.

More than one-third of SPP children were multi-language learners in 2021–22

SPP continues to enroll children from a wide variety of linguistic backgrounds. In 2021–22, there were at least 35 different languages spoken in households with children in SPP. Every year beginning in 2017–18, at least 29 different primary languages were spoken among SPP children, including at least 10 primary languages that were spoken by five or more SPP children. In 2021–22, language diversity appeared to increase further, with 18 languages spoken by five or more SPP children and 33 primary languages spoken by at least one SPP child. The eight most common primary languages were English (1,281 children), Spanish (137), Amharic (69), Cantonese (56), Vietnamese (54), Tigrinya (50), Oromo (49), and Somali (41).

Recommendation: The number of SPP children who are multi-language learners suggests the need for ongoing language instruction and translation/interpretation services for families, as well as continued cultural and linguistic bias training for DEEL and SPP staff and teachers. In addition, promoting home language use in early care settings has been found to have positive benefits for children (see, for example, Martin et al., 2022). SPP may want to consider expanding the number of dual language classrooms and collecting more data on classrooms that use multiple languages but may not meet DEEL’s definition of dual language classroom.

The proportion of SPP children who were multi-language learners (defined in this report as living in a household where a language other than English is spoken) has varied from 23 percent to 40 percent since 2015–16, with an increase across years. In 2021–22, 40 percent of SPP children were multi-language learners. Enrollment by multi-language learner status did not vary widely by site type in 2021–22, with 39 percent of children enrolled at CBOs who were multi-language learners, 41 percent at SPS preschools, and 43 percent at FCCs.

SPP children were more diverse in terms of race/ethnicity and in primary language compared to SPS kindergarten students

In 2020–21, 78 percent of SPP children were children of color, compared to 52 percent of SPS kindergarten students in the following year (2021–22).⁵ There was also a higher percentage of multi-language learners among SPP children than SPS kindergarten students: In 2020–21, 40 percent of SPP children were multi-language learners, while in 2021–22, only 20 percent of SPS kindergarteners were multi-language learners. This indicates SPP is serving proportionally more racially and linguistically diverse families, which may help SPP reduce opportunity gaps between student groups.

Overall, annual household income increased for SPP children, although the percentages of SPP children who were homeless or from households living in poverty who qualify for Head Start or ECEAP also increased

The average and median household incomes of SPP children have increased since the program began. For example, average income increased from \$56,498 in 2016–17 to \$63,711 in 2021–22.⁶ However, this increase in the average and median income masks increases among households living in poverty who qualify for ECEAP or Head Start⁷ (exact income level unknown)⁸ and decreases among households earning less than \$60,000. In 2021–22, nearly one-quarter (24 percent) of SPP children were members of households living in poverty and eligible for Head Start or ECEAP, up from 11 percent in 2017–18 (figure 2). Also, since 2017–18, the proportion of SPP children experiencing homelessness tripled, from 1.3 percent in 2017–18 to 3.9 percent in 2021–22.⁹ This

Recommendation: DEEL should consider what additional services can support children and families experiencing homelessness or living in poverty and either provide additional services (such as wraparound services) or connect families to existing services in the community.

⁵ This comparison uses the following year for SPS students to compare demographic characteristics for the same cohort of children (following SPP children from preschool into kindergarten).

⁶ Results for household income in 2015–16 are not presented. A much smaller number of children enrolled in SPP in this year (269 total), and not all income categories could be presented due to small numbers of children in certain categories.

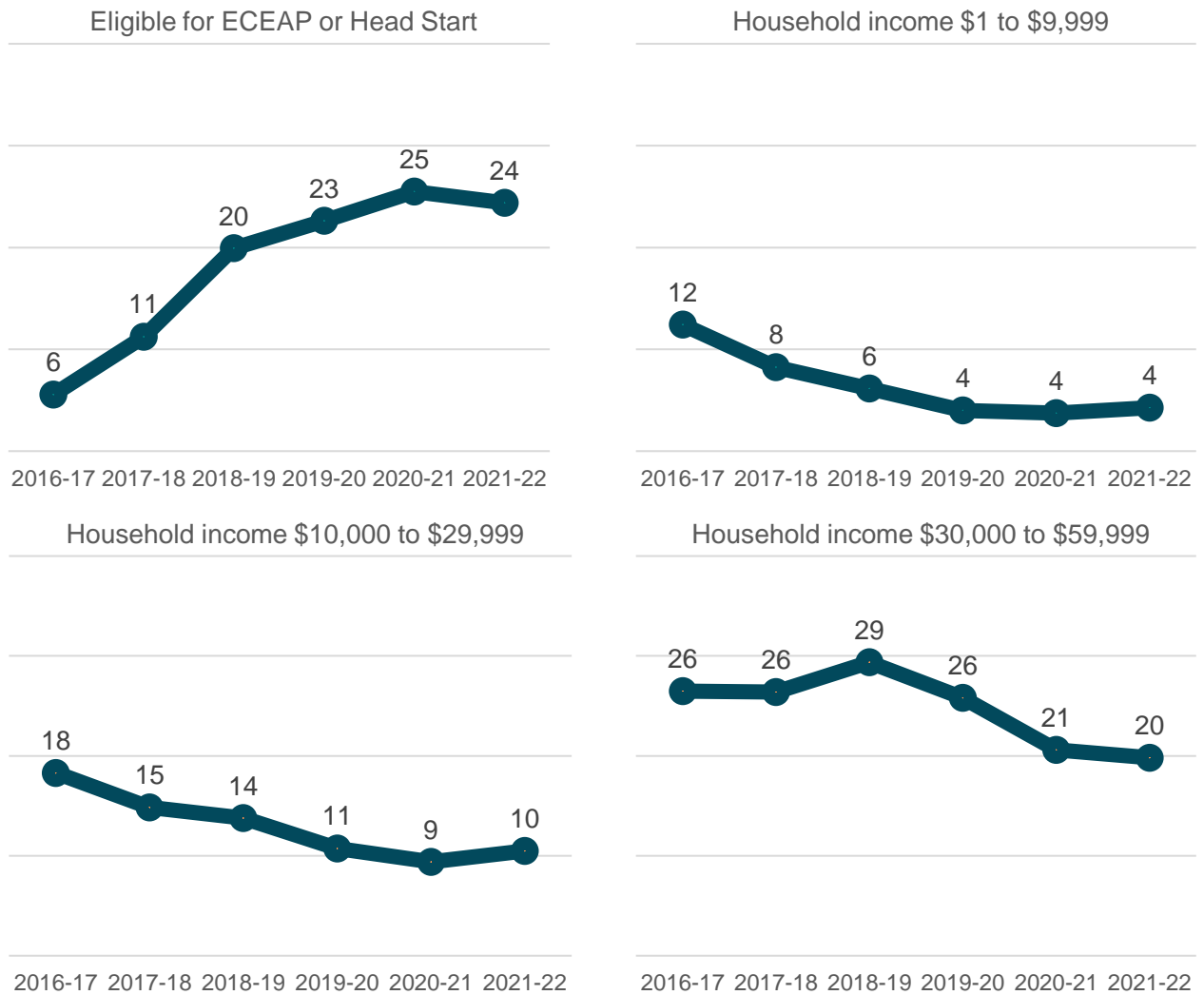
⁷ For Head Start, qualifying income levels align with federal poverty guidelines, and a single set of guidelines apply to most states, including Washington. Families eligible for Head Start are at or below 130 percent of the federal poverty level (Head Start, 2022). For ECEAP, qualifying income levels were based on the federal poverty guidelines, with families qualifying who were at or below 110 percent of the federal poverty limit up through the 2021–22 school year (DCYF, 2022a). Beginning in 2022–23, ECEAP eligibility will rely on state median income (DCYF, 2022b). For example, this means that in 2021–22, a family of two would qualify if their annual income was below \$20,141, and in 2022–23, they would qualify if their income was below \$26,477 (DCYF 2022a; DCYF 2022b).

⁸ For families who qualify for Head Start and ECEAP based on income eligibility, their income is not entered into the SPP data system.

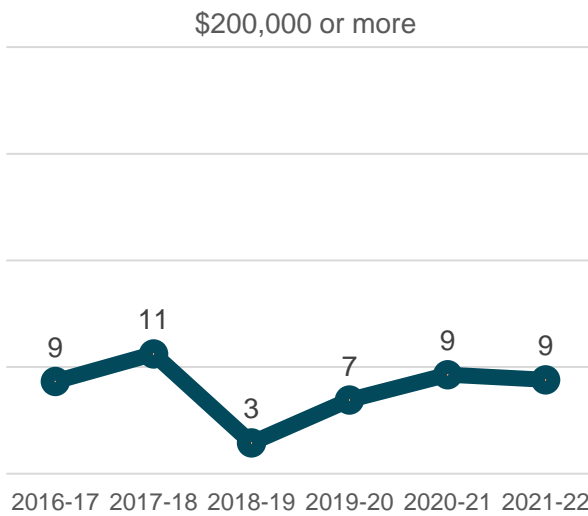
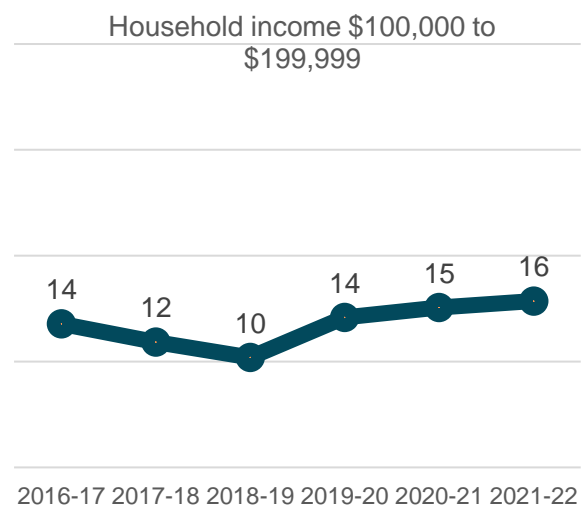
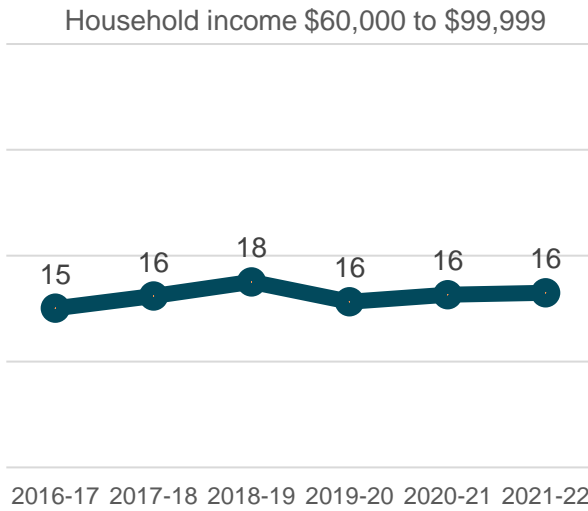
⁹ In 2021–22, children experiencing homelessness were enrolled at 40 different SPP sites. The maximum number of children experiencing homelessness at any one site was seven, indicating that the increase is not driven by

increase may have been driven by DEEL intake specialists focusing on increasing access for children experiencing homelessness, as well as changing income and living situations for many families in Seattle (King County Regional Homelessness Authority, 2022; U.S. Bureau of Labor Statistics, 2022).

Figure 2. The percentage of SPP children eligible for ECEAP or Head Start increased, while the percentage of SPP children living in households earning annual incomes of \$1 to \$9,999, \$10,000 to \$29,999, and \$30,000 to \$59,999 decreased, 2016–17 to 2021–22



enrollments concentrated at a single site. Results are not presented for 2015–16 and 2016–17 due to small numbers of children.



Note: The percentage of children living in households in each income category is shown on each graph. The axis scale is 0 to 40.

Source: Authors' analysis of Seattle Department of Education and Early Learning data.

Household income varied by type of SPP site

Average household income in 2021–22 varied by the type of site where SPP children were enrolled. Household income was highest for children in CBOs, with an annual average of \$69,262, compared to \$56,720 at SPS preschools and \$40,758 at FCCs. Among children enrolled in FCCs, 58 percent were from households earning less than \$30,000 per year and only 5 percent were from households earning more than \$100,000 per year. Children in households earning less than \$30,000 per year in 2021–22 enrolled in CBOs at lower rates (51 percent compared to 63 percent across all

Recommendation: To serve more low-income Seattle children who are not also in ECEAP or Head Start, DEEL could consider strategically recruiting more FCC providers.

income levels) and in SPS preschools at higher rates (42 percent compared to 33 percent across all income levels).

Teaching Strategies GOLD

[Teaching Strategies GOLD](#) (TSG) is an observational formative assessment that teachers in SPP classrooms use to help differentiate and plan instruction to support children in key areas. It assesses the child across six domains (language, literacy, cognitive, math, social-emotional, and physical) and is administered in the fall, winter, and spring. Teachers and directors can look at growth over time as well as whether children are meeting widely held expectations, kindergarten readiness benchmarks, and growth expectations. The assessment is available in both English and Spanish and is widely used in preschool settings across the United States.

Members of the Advisory Committee as well as SPP teachers in a focus group¹⁰ expressed concerns about the use of TSG for several reasons. First, TSG may have cultural biases toward what is considered appropriate development. Second, the assessment is only available in English and Spanish, complicating its use for teachers who speak a different primary language. Third, the assessment is based on teacher observation; even with training (including a required inter-rater reliability training), those observations are still subject to inherent biases.

Additional concerns were raised by SPP directors, including that TSG assessments are often not completed for children with disabilities. They were also concerned that the COVID-19 pandemic disrupted data collection and impacted both learning and skill development for children. Data quality may have varied across the years, particularly in years impacted by the pandemic and remote learning. To partially mitigate this concern, this report does not present TSG results from 2019–20. However, data from 2020–21 and 2021–22 likely also suffer from pandemic disruptions—for example, 58 percent of SPP children in 2020–21 were missing data on whether they met the growth expectations in the social-emotional domain.

TSG has been administered in SPP preschools since 2016–17 and is the only source of information SPP uses to track child performance and growth. Data from 2016–17 are excluded from the results in this report because benchmarks for all domains were not available. TSG allows for entering of qualitative information about child progress, but this information is not easily aggregated across children, classrooms, and sites. Data quality has likely

Recommendation: DEEL may consider providing additional training on TSG data entry, especially given pandemic-related disruptions to learning and potential inherent educator biases. DEEL may also wish to encourage use of qualitative information entered into the TSG system.

¹⁰ This focus group occurred in April 2022. Full results from focus groups will be included in the 2023 evaluation report.

improved over time for sites continuing with SPP (with the exception of pandemic disruptions) as DEEL has worked to ensure inter-rater reliability certification for SPP teachers. However, for sites entering SPP or with high teacher turnover, data quality may be less reliable; this is a particular consideration given the large number of new providers joining SPP during this time frame.

Despite its limitations, TSG is the best longitudinal data assessment of SPP children during preschool.¹¹ Based on feedback from SPP directors, this report focuses on the measure of *meeting growth expectations*, which compares individual fall-to-spring growth to the expected growth based on developmental trajectories over the same time period. TSG also includes two additional measures of children’s skills. *Widely held expectations* compares individual child proficiency to expected developmental trajectories on each domain. TSG *kindergarten readiness* is a measure of the developmental progress of an individual child and whether that child has progressed to a developmental level in each domain that is considered a kindergarten skill level. Trends and implications for widely held expectations and kindergarten readiness are similar to those shown in growth (see figure A1 and table A1 in the appendix). All three of these measures (meeting growth expectations, widely held expectations, and kindergarten readiness) have limitations related to their sensitivity to children from racially, culturally, and linguistically diverse backgrounds and children with disabilities.

Recommendation: Examining growth by domain for classrooms and sites could help tailor coaching supports and training to where it is needed most to support children. Additionally, sites with high growth could provide lessons learned to other sites about how to support growth.

SPP children met TSG growth targets, although the percentage of children meeting growth targets decreased across all domains over the past five years

Although more than 80 percent of children continued to meet or exceed TSG growth targets¹² in every year, the percentage of children meeting or exceeding these targets declined between 2017–18 and 2021–22 across every domain (figure 3). The declines in these percentages were largest in the social-emotional and math domains. A lower proportion of children met growth targets in the social-emotional domain than in the other domains every year since 2018–19. Four of the six domains (social-emotional, physical, literacy, and

Recommendation: The percentage of children meeting TSG growth targets has been relatively high but has declined in recent years. It will be important to track these results over the next few years to see if this pattern changes.

¹¹ Due to the small SPP enrollment numbers prior to 2017–18, this report focuses on results beginning in 2017–18.

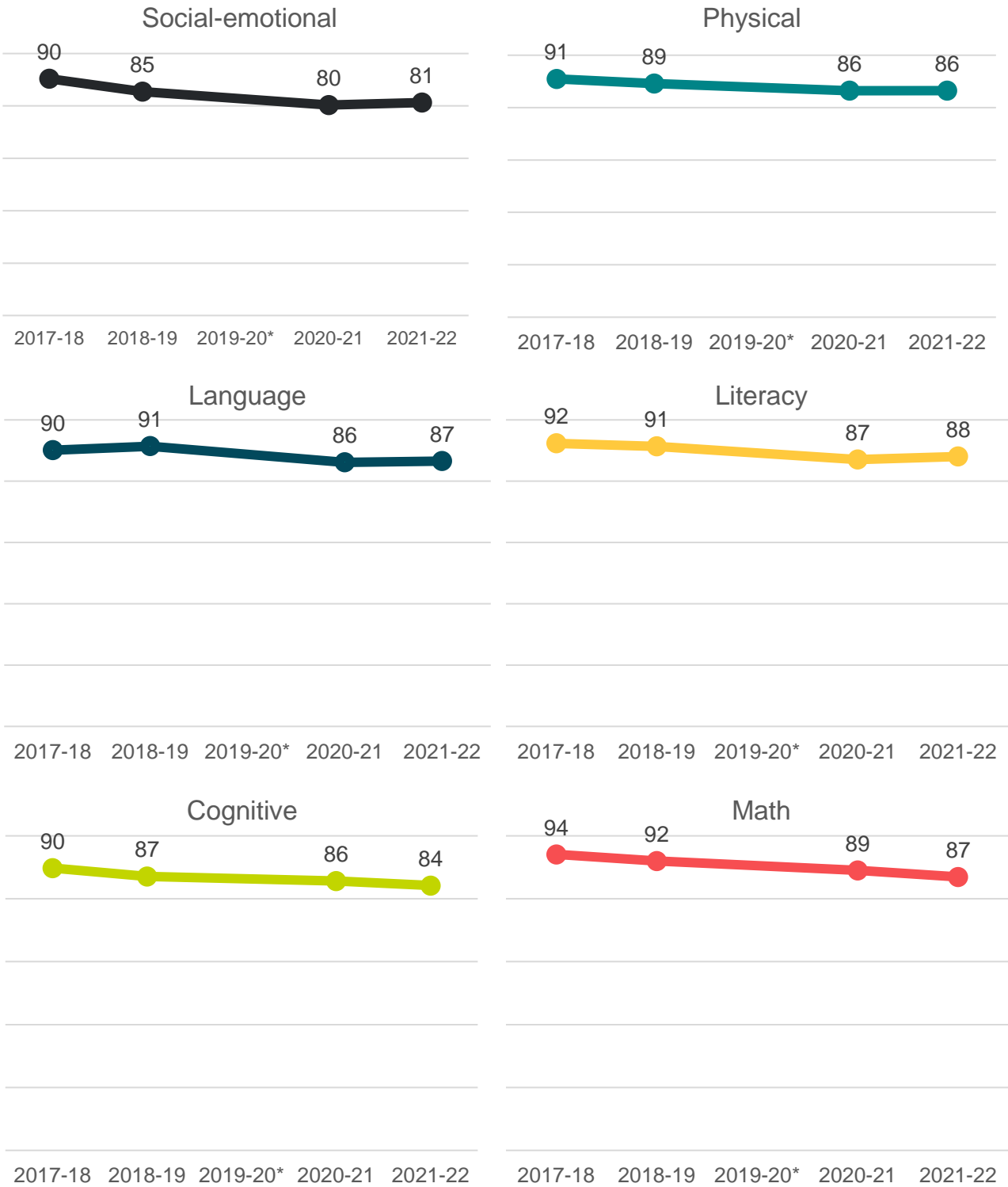
¹² This analysis included all SPP children and adjusted growth expectations based on the specified program/child age.

language) saw increases from 2020–21 to 2021–22, which may indicate a return to pre-pandemic learning levels. However, two domains (math and cognitive) saw a continued decline in the most recent year. Some SPP directors indicated that it was particularly hard to adapt math-focused activities for remote learning; growth in this domain may have suffered as a result.

The percentage of SPP children meeting TSG growth targets was highest in the literacy domain and lowest in the social-emotional domain in 2021–22 (figure 4).

Recommendation: Although declines in growth are not surprising after the COVID-19 pandemic and increased stress on children, families, and educators, they indicate a need for DEEL to further support social-emotional development and math. DEEL might consider providing a dedicated social-emotional curriculum and additional resources for mental health supports. Additionally, SPP teachers may benefit from training and coaching to support math instruction as well as math resources to use in their classrooms.

Figure 3. The percentage of SPP children meeting TSG growth targets decreased in all domains between 2017–18 and 2021–22, though increases occurred from 2020–21 to 2021–22 in four of six domains



* The number of TSG participants in 2019–20 was low due to the COVID-19 pandemic, and their results are not shown. Data from 2020–21 and 2021–22 likely also suffered from pandemic-related disruptions and may be less reliable than earlier years.

Note: The percentage of children meeting fall-to-spring growth targets, adjusted for their age, is shown on each graph. The axis scale is 0 to 100. The number of children included for each domain and year varied. In 2017–18, of the 970 children in SPP, between 561 and 578 had data available for this analysis, depending on the domain. In 2018–19, of the 970 children in SPP, between 904 and 970 had data. In 2019–20, data were collected from few children due to the COVID-19 pandemic. In 2020–21, of the 1,660 children in SPP, between 556 and 752 had data. In 2021–22, of the 1,953 children in SPP, between 1,164 and 1,233 had data.

Source: Authors' analysis of Seattle Department of Education and Early Learning data.

Figure 4. The percentage of SPP children meeting TSG growth targets was highest in the literacy domain and lowest in the social-emotional domain in 2021–22



Note: The percentage of children meeting fall-to-spring growth targets, adjusted for their age, is shown on each graph. The axis scale is 0 to 100.

Source: Authors' analysis of Seattle Department of Education and Early Learning data.

In most domains, the percentage of SPP children meeting growth expectations differed by race/ethnicity, multi-language learner status, age, site type, length of site participation in SPP, and teacher time in SPP, but was similar across income levels

In 2021–22, there were substantial differences in the percentage of SPP children who met or exceeded growth targets by race/ethnicity, multi-language learner status, age, type of SPP site, duration of site participation in SPP, and teachers' time in SPP. However, there were fewer differences between children by household income level.

- *Race/ethnicity.* Among Asian, Black, Latinx, and white children,¹³ the proportion of SPP children meeting TSG growth targets in 2021–22 was highest among Asian children in every domain except math, where Latinx children had the highest proportion (see figure A2 in the appendix). Lower proportions of white children in SPP met growth targets in four domains

¹³ This analysis did not compare rates across all racial/ethnic groups due to small numbers of children in many racial/ethnic groups.

(language, cognitive, social-emotional, and physical) compared to Asian, Black, and Latinx children. The highest domain among Asian and Latinx children was language, while among Black and white children, it was literacy.

- *Multi-language learners.* In 2021–22, multi-language learners attained growth targets at higher rates in four of six domains compared to children who were not multi-language learners: social-emotional, physical, language, and cognitive. The largest differences were in the social-emotional domain (84 percent among multi-language learners vs. 79 percent among non-multi-language learners) and the physical domain (89 percent among multi-language learners vs. 85 percent of non-multi-language learners). In literacy and math, similar percentages of multi-language learners and non-multi-language learners met growth expectations (88 percent in literacy and 87 percent in math for both groups of children).
- *Age.* SPP children who were age 5 or 6 at the time of the spring TSG met growth targets at higher rates in all but the language domain compared to children who were 4.¹⁴ In the language domain, 83 percent of children who were either age 4 or age 6 met growth targets, which was lower than that of children who were 5 (89 percent).
- *Site type.* Higher proportions of SPP children who were enrolled in SPS preschools met or exceeded growth targets compared to children in FCCs or CBOs (see figure A3 in the appendix). The difference was particularly large between SPS preschools and FCCs, with 88 percent to 95 percent of children in SPS preschools meeting or exceeding growth targets (across domains) compared to 53 percent to 59 percent of children enrolled in FCCs.
- *Site time in SPP.* Across most domains, children in sites with a longer duration of enrollment in SPP had slightly higher rates of meeting TSG growth expectations in 2021–22. One exception to this trend was among sites that started SPP in 2020–21—children at these sites had higher rates of meeting TSG growth expectations compared to those at sites that joined SPP in any other year.
- *Teacher time in SPP.* This analysis examined TSG results by the number of years the first-listed lead teacher had taught in SPP.¹⁵ Across all six domains, students of teachers in their fourth or fifth year in SPP met TSG growth targets at higher rates than

Recommendation: SPP children enrolled at FCCs met TSG growth targets at lower rates than SPP children enrolled at other types of sites. FCCs may benefit from additional coaching and support.

Recommendation: DEEL should consider ways to support SPP programs in retaining experienced teachers.

¹⁴ Growth targets were adjusted based on child age. Results for age 3 are not included due to small numbers of students.

¹⁵ SPP classrooms have up to two lead teachers (“lead 1” and “lead 2”) and up to two assistant teachers (“assistant 1” and “assistant 2”) listed in the data. This analysis used information from teacher designated as “lead 1”.

students of first-year SPP teachers. In most domains, students of third-year SPP teachers also had higher scores. In all domains, students of second-year SPP teachers had higher scores than students of first-year SPP teachers, suggesting a positive association between years teaching in SPP and higher rates of children meeting the TSG growth targets. This could be due to improved teaching skills over time as well as increased familiarity with the TSG.

- *Household income.* Differences in meeting TSG growth targets by household income were small across five domains in 2021–22. Lower percentages of children in households earning less than \$30,000 annually met growth expectations in the math domain compared to children in households earning \$100,000 or more (85 percent vs. 91 percent, respectively).

WaKIDS

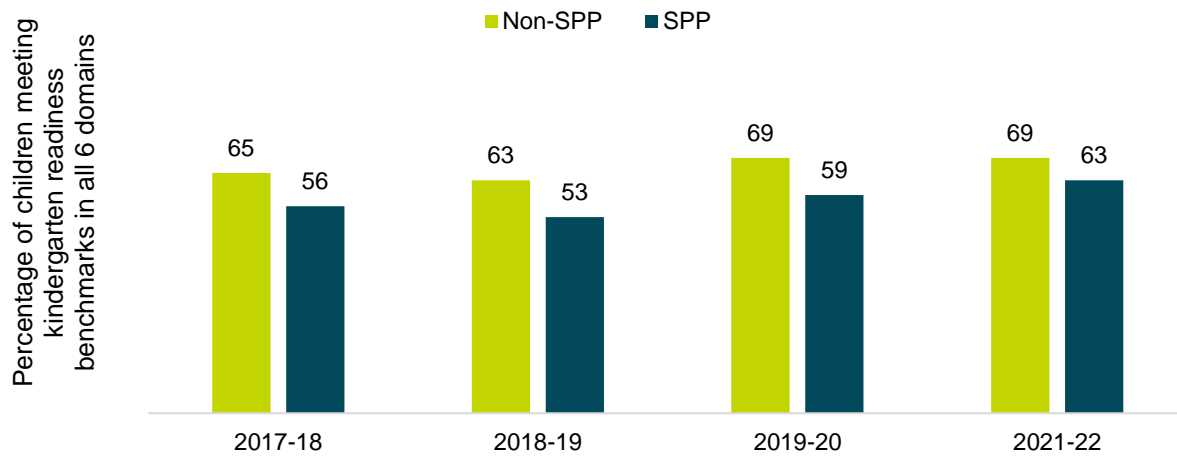
The [WaKIDS assessment](#) is based on TSG and is used across Washington state to gauge the kindergarten readiness of children in Washington public schools in the fall of their kindergarten year. WaKIDS is also an observational assessment and is scored on the same six domains as TSG. As with TSG, stakeholders reported concerns about WaKIDS' cultural responsiveness. They also reported greater concerns about the reliability and bias of the assessment, as kindergarten teachers are not required to show inter-rater reliability. This observational assessment provides one measure of kindergarten readiness. There are other ways to define and conceptualize kindergarten readiness that WaKIDS does not assess, such as whether the school is ready to support the student through kindergarten.

Although SPP children overall met kindergarten readiness standards at lower rates across all WaKIDS domains compared to non-SPP kindergartners, some groups of SPP children met kindergarten readiness standards at higher rates than their non-SPP peers in the same groups

When examining kindergarten readiness, a lower percentage of SPP children met benchmarks in all six WaKIDS domains compared to non-SPP students in SPS kindergarten classrooms (figure 5).¹⁶

¹⁶ This descriptive analysis does not employ a matched sample of similar students and does not adjust for student or school characteristics. This analysis is only conducted among children with scores in all six domains.

Figure 5. SPP children met kindergarten readiness standards at lower rates in all six WaKIDS domains compared to non-SPP students in SPS, 2016–17 to 2021–22 (excluding 2020–21)



Note: This analysis includes only children who have scores in all six domains and is not based on a matched sample. The 2020–21 school year was not included as more children did not have WaKIDS scores that year due to the negative impact of COVID-19 on the administration of assessments.

Source: Authors’ analysis of Seattle Department of Education and Early Learning data.

However, looking at the data overall masks differences between important groups of SPS and SPP children. Among Asian and Black children and students receiving English learner services, the rate of meeting WaKIDS benchmarks are higher in certain domains (as described below). This indicates that SPP may support or better prepare children in those student groups than alternative preschool programs or no preschool program.¹⁷

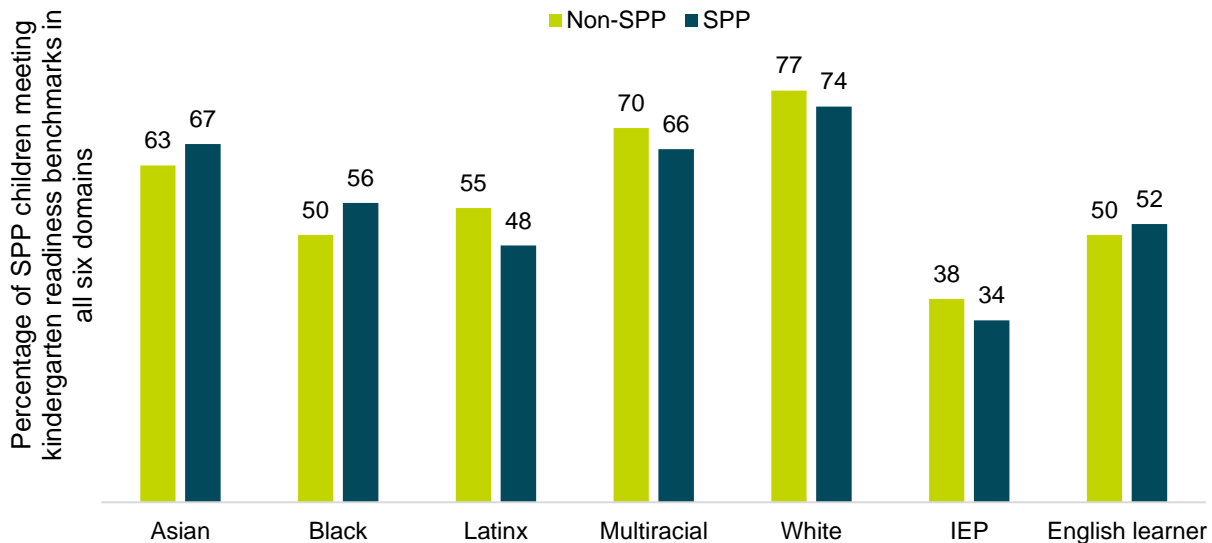
- Comparing kindergarten readiness in all six WaKIDS domains by racial and ethnic groups, we see that in 2021–22, SPP children who were Asian or Black met this benchmark for all six domains at higher rates than non-SPP students in the same racial group (figure 6). Examining the domains separately, Black children in SPP had higher kindergarten readiness scores on each of the six domains compared to Black students who did not participate in SPP. Asian children in SPP had higher scores in each of five domains (language, literacy, math, social-emotional, and physical) and lower scores in one domain (cognitive) compared to Asian students who did not participate in SPP. Compared to their non-SPP counterparts, Latinx children in SPP had higher scores in the physical, language, literacy, and math domains, while multiracial and white children in SPP had lower scores in each of the six domains.
- SPP children with an IEP met kindergarten readiness standards in all six domains at lower rates (34 percent) compared to non-SPP children with an IEP (38 percent) in 2021–22. Examining results by domain, however, SPP children with an IEP had higher rates of

¹⁷ It is also possible that SPP families with children in these groups differ in key ways from other families; this descriptive analysis does not attempt to adjust for any demographic characteristics.

kindergarten readiness in five of six domains compared to non-SPP students with an IEP. The language domain was the only domain in which SPP children with an IEP had lower rates of kindergarten readiness than non-SPP students with an IEP.

- In 2021–22, SPP children receiving English learner services had higher percentages (52 percent) of kindergarten readiness compared to non-SPP students receiving English learner services (50 percent). Students in SPP receiving English learner services had higher rates of readiness in the each of the six domains compared to their non-SPP counterparts.

Figure 6. SPP children who identified as Asian or Black or who received English learner services met kindergarten readiness standards at higher rates compared to their non-SPP peers in those groups, 2021–22



Note: American Indian/Alaska Native and Native Hawaiian/Pacific Islander student categories included fewer than 10 students and are not shown. SPS data do not include North African/Middle Eastern as a category. This analysis does not include children who did not have scores in all six domains and is not based on a matched sample.

Source: Authors’ analysis of Seattle Department of Education and Early Learning data.

SPP children performed similarly to a matched group of non-SPP SPS kindergarten students on all domains of the WaKIDS kindergarten readiness assessment

SPS kindergarten students who participated in SPP performed similarly on WaKIDS compared to a similar group of SPS kindergarten students who did not participate in SPP.¹⁸ These non-SPP SPS

¹⁸ The results are from a matched sample of students with similar demographic characteristics (race/ethnicity, English learner status, receiving IEP services, gender, and age) but do not adjust for child assessment performance

kindergarten students may have participated in ECEAP, Head Start, a private preschool program, or no program at all; there are no data available on preschool program participation for non-SPP children in SPS. The relationships between SPP participation and scoring “kindergarten ready” in all six WaKIDS domains in 2017–18, 2018–19, 2019–20, and 2021–22¹⁹ were not statistically significant, indicating that SPP children performed similarly on this measure to their non-SPP peers (see table A2 in appendix).

Recommendation: Consider conducting additional research that includes information on non-SPP children’s TSG performance at preschool ages, perhaps through a partnership with non-SPP preschool programs. This would allow SPP children to be compared to a matched group of students at kindergarten entry.

Examining performance within each of the six domains (language, literacy, math, cognitive, social-emotional, and physical), the estimated relationship between SPP and these domains was not statistically significant in most cases (see tables A3 and A4 in appendix). This means SPP children performed similarly to non-SPP students in most years and domains in terms of both the scale score on the assessment and whether the child met the kindergarten readiness standard in that domain. Exceptions to this were in the following domains:

- *Language:* In 2019–20, participation in SPP had a *positive* relationship with meeting the kindergarten readiness standard.
- *Literacy:* In 2019–20, participation in SPP had a *positive* relationship with meeting the kindergarten readiness standard and with earning a higher scale score.
- *Social-emotional:* In 2018–19, participation in SPP had a *negative* relationship with meeting the kindergarten readiness standard, indicating that SPP children performed worse than their non-SPP counterparts after adjusting for child and school characteristics.
- *Physical:* In 2019–20 and 2021–22, participation in SPP had a *positive* relationship with meeting the kindergarten readiness standard. In 2021–22, participation also had a *positive* relationship with earning higher scale scores.

The positive relationships in three domains (language, literacy, and physical) in 2019–20 indicate that SPP children were outperforming their non-SPP counterparts after adjusting for child and school characteristics. However, these relationships did not continue in 2021–22 for two of the three domains. The COVID-19 pandemic may have stalled progress on WaKIDS for both SPP and non-SPP students in 2021–22.

prior to SPP, as prior assessment data were not available for non-SPP students. These results cannot be considered an estimate of the impact of SPP since we are unable to adjust for prior performance.

¹⁹ The 2020–21 school year was not included as more children did not have WaKIDS scores that year due to the negative impact of COVID-19 on the administration of assessments.

Trends and outcomes among SPP classrooms

SPP has used the [Classroom Assessment Scoring System \(CLASS\)](#) since 2015–16 as a measure of classroom quality, specifically the quality of teacher-child interactions. CLASS assesses three domains of those interactions: classroom organization, emotional support, and instructional support. Within CLASS, the domain of classroom organization assesses the organization and management of children’s behavior, time, and attention (Head Start, 2021). The emotional support domain measures the extent to which teachers promote a positive classroom climate (Head Start, 2021). CLASS instructional support assesses the degree of teacher curriculum implementation and effective promotion of child cognitive and language development (Head Start, 2021).

Certified CLASS observers use a specific protocol to rate each classroom on a scale of 1–7, where scores of 1–2 indicate low-quality interactions, 3–5 indicate mid-quality interactions, and 6–7 indicate consistently effective interactions (Head Start, 2021).

Prior to 2017–18, there were only 26 SPP providers operating a total of 33 classrooms. This section focuses on trends beginning in 2017–18, when 49 SPP sites managed 65 classrooms. The number of SPP providers and classrooms has increased steadily since then, with 87 SPP sites operating 132 classrooms in 2021–22. The majority of these 132 SPP classrooms (57 percent) were located in CBOs, with the remaining classrooms located in SPS preschools (27 percent) or in FCCs (16 percent) in 2021–22. These proportions are relatively similar to 2017–18, although they have fluctuated somewhat in the intervening years.



Although the types of sites where SPP classrooms were located did not change greatly, the percentage of SPP classrooms that were ECEAP increased from 2 percent (one ECEAP classroom) to 14 percent (18 ECEAP classrooms), and the percentage of inclusion classrooms increased from 3 percent to 18 percent (two to 24 classrooms). The use of High Scope and Creative Curriculum also changed. The proportion of classrooms using High Scope decreased from 60 percent in 2017–18 to 52 percent in 2021–22. Classroom-level data for dual language classrooms were not available.

CLASS scores in SPP classrooms met or exceeded the average for national Head Start classrooms and SPP scores in two domains have increased over time

SPP classrooms had similar average scores in classroom organization and higher average scores in emotional support and instructional support compared to the Head Start national mean (Head Start, 2020). Overall, within SPP classrooms, scores in two of three domains (classroom organization and emotional support) increased over time, while scores in one domain (instructional support) decreased (figure 7). There was variation in scores across site types in each domain.

- *Classroom organization:* Average classroom organization scores for SPP classrooms increased between 2017–18 and 2021–22, from 5.9 to 6.2. Scores varied over time for each provider type, although FCCs consistently received the lowest average scores in this domain, and SPS preschools received the highest average scores (see figure A4 in the appendix). These scores are comparable to the mean classroom organization score of 6.0 from a national study of 2020 Head Start grantees (Head Start, 2020).
- *Emotional support:* Average emotional support scores for SPP classrooms were higher than classroom organization scores, increasing from 6.3 in 2017–18 to 6.6 in 2021–22. Average emotional support scores increased for all three types of SPP sites, but the increase was most dramatic among FCCs, with an increase in average score of 0.6 (see figure A5 in the appendix). These scores are consistently higher than the 2020 national mean emotional support score of 5.8 (Head Start, 2020).
- *Instructional support:* Average instructional support scores were substantially lower than for either of the other CLASS domains. They decreased from 3.5 in 2017–18 to 3.2 in 2021–22 but were still higher than the national mean instructional support score of 2.9 (Head Start, 2020). The decrease may have been driven in part by changes at CBOs and FCCs, which both experienced decreases in average scores (for example, a decrease of 1.5 on average among FCCs; see figure A6 in the appendix). These results suggest that FCCs may need additional support to improve and sustain classroom quality in instructional support.

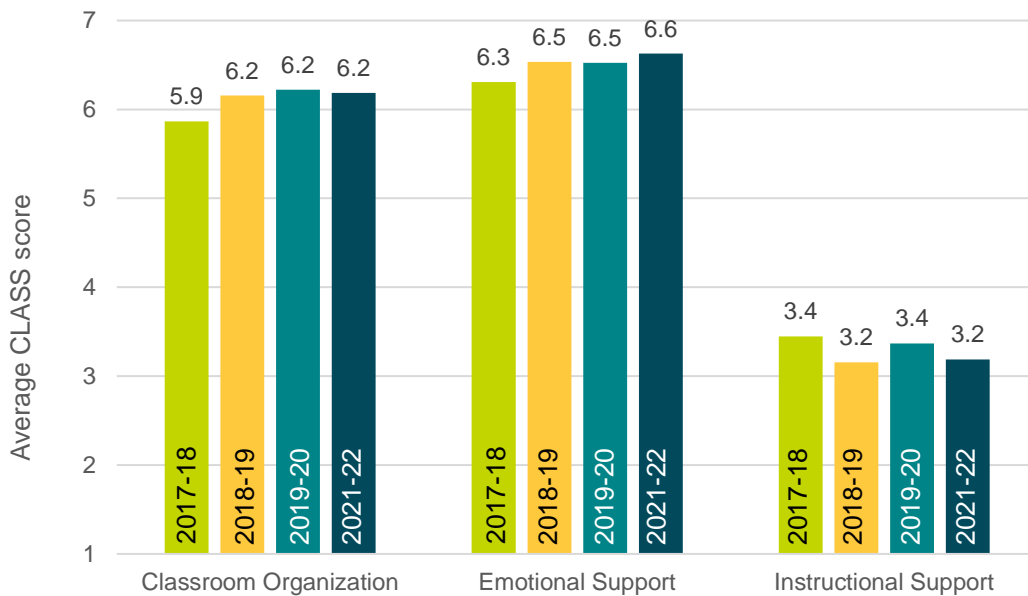
Examining CLASS scores by classroom type, ECEAP classrooms experienced increased scores in all three domains over time. Among Head Start classrooms, emotional support scores were similar, while scores in the other two domains decreased. For inclusion classrooms (SPP Plus), scores in all three domains decreased.

Recommendation: It may be helpful to study how ECEAP SPP sites have worked to improve quality over the last three years and bring lessons learned back to other SPP sites.

Additional coaching and professional development on the components of the instructional support domain may help to increase scores. FCCs may need additional support in meeting similar quality standards in instructional support as CBOs and SPS preschools.

Further examination revealed only a few trends among provider or child characteristics and CLASS scores in each domain. Multivariate regression analyses controlled for classroom race/ethnicity, language, household income, site type, council district, and program year. Findings indicate that SPS classrooms had higher instructional support scores and FCCs had lower emotional support scores. Classrooms located in city council district 3 had higher instructional support scores.

Figure 7. CLASS scores increased in two domains and decreased in one, 2017–18 to 2021–22



*CLASS observers only rated 12 SPP classrooms in 2020–21, so CLASS scores are not reported for that year.
 Source: Authors’ analysis of Seattle Department of Education and Early Learning data.

Trends and outcomes for the SPP system



This section focuses on two questions related to SPP educators: How have SPP teacher qualifications and demographic characteristics changed over time? To what extent have SPP children been educated over time by a diverse educator workforce aligned with child race/ethnicity and linguistic diversity? To answer these questions, we first review the number of teachers overall and by site; then examine teacher demographic characteristics, tenure, and qualifications; and lastly explore alignment between child and teacher diversity.

From 2016–17 to 2021–22, the number of SPP teachers increased from 63 to 236, keeping pace with the expansion of SPP classrooms and sites over time. The percentage of teachers employed at each type of site has remained relatively consistent since 2017–18. In 2021–22, 56 percent of SPP teachers worked at CBOs, 28 percent at SPS preschools, and 17 percent at FCCs.

Lead teachers make up a slightly larger proportion of the SPP teacher workforce, with 51 percent to 58 percent of all teachers serving in a lead teacher position rather than an assistant teacher position.²⁰

SPP teachers are mostly female, reflecting general trends in the early care workforce—89 percent in 2021–22. The proportion of SPP teachers who are female has not changed greatly since 2018–19, although a lower proportion (79 percent) of FCC teachers are female, compared to 92 percent of SPS preschool teachers and 90 percent of CBO teachers. Less than 1 percent of teachers identified as nonbinary.

²⁰ Data on teaching staff included up to two teachers designated as lead teachers and up to two teachers as assistant teachers. All teachers listed as a lead teacher or an assistant teacher were included in analyses in this section unless otherwise specified.

Educator diversity

In 2021–22, 70 percent of SPP teachers were people of color; Black teachers were the largest proportion, at 32 percent of teachers

In 2021–22, 70 percent of SPP teachers (including lead and assistant teachers) were people of color. Black teachers make up the largest racial/ethnic group, at 32 percent of teachers (figure 8). The next largest group is white (30 percent), followed by Asian (18 percent); Latinx (5 percent); and the combined group of American Indian/Alaska Native, Middle Eastern/North African, Native Hawaiian/Pacific Islander, or two or more races (5 percent).²¹ A higher proportion of assistant teachers were people of color (75 percent) than lead teachers (67 percent) in 2021–22.

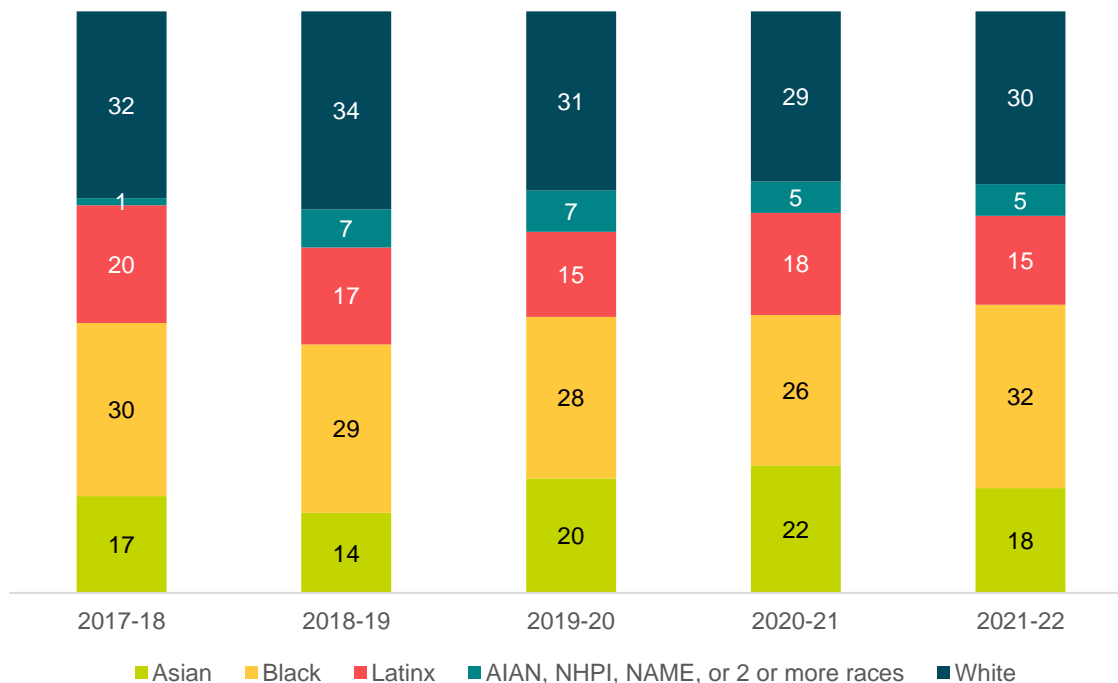
Over the five years from 2017–18 to 2021–22, the percentage of SPP teachers who were people of color decreased and then increased again. Beginning at 68 percent in 2017–18, this percentage decreased to 66 percent in 2018–19 and then increased to 70 percent in 2021–22. During this time period, the percentage of teachers who identified as Latinx decreased 5 percentage points, while the percentage identifying as American Indian/Alaska Native, North African/Middle Eastern, Native Hawaiian/Pacific Islander, or two or more races increased by 4 percentage points. The percentages of Asian, Black, and white teachers remained steady over time, with changes of 1 or 2 percentage points over the five-year period.

Recommendation: Increasing funding for high-quality training on diversity, equity, inclusion, and social justice and streamlining access to that funding may help to support a diverse workforce.

Create a pathway for assistant teachers to become lead teachers and continue efforts to recruit diverse assistant and lead teachers. Develop partnerships with local colleges to help mitigate systemic barriers to higher education. Consider existing systemic barriers to entering the SPP teaching workforce, especially for people of color, and seek to mitigate them.

²¹ 2016–17 percentages are not included due to small numbers of teachers in each racial/ethnic group. Teachers whose race was unknown were excluded from these calculations (ranging from two to 21 teachers depending on the year). The American Indian/Alaska Native, Middle Eastern/North African, Native Hawaiian/Pacific Islander, or two or more races grouping was necessary to protect teacher privacy, as fewer than 10 educators were in each of these categories in each year.

Figure 8. Over two-thirds of SPP teachers were people of color in each year, 2017–18 to 2021–22



AIAN is American Indian/Alaska Native. NHPI is Native Hawaiian/Pacific Islander. NAME is North African/Middle Eastern.

Source: Authors’ analysis of Seattle Department of Education and Early Learning data.

SPP teachers were linguistically diverse, speaking over 17 different primary languages in 2021–22, and this linguistic diversity has increased over time

SPP teachers spoke a variety of languages as their primary language, including English (65 percent); Spanish (10 percent); Vietnamese (5 percent); Mandarin Chinese (4 percent); Oromo (4 percent); Somali (3 percent); and Arabic, Cantonese, Amharic, Tagalog, French, Hindi, Korean, Thai, Tigrinya, and other languages (2 percent or less in each language).

Linguistic diversity has increased since 2017–18, with an increase in the variety of languages spoken by SPP teachers over time and a decrease in English as the reported primary language (from 73 percent in 2017–18 to 65 percent in 2021–22).²² A higher percentage of

Recommendation: The high numbers of families and teachers who are racially, ethnically, and linguistically diverse indicate a continued need for high-quality training on diversity, equity, inclusion, and social justice.

To encourage attendance at these trainings, DEEL should ensure funding is available for release time and that the process to receive funds is streamlined.

²² This analysis excludes those for whom primary language is unknown, excluding between 0 and 15 teachers each year. Data from 2016–17 are also excluded due to small numbers of teachers.

lead teachers reported English as their primary language in 2021–22 (69 percent) compared to assistant teachers (54 percent).

Considering primary, secondary, and tertiary languages spoken by SPP teachers, 48 percent of SPP teachers were linguistically diverse in 2021–22, an increase of 8 percentage points from 2016–17 (table 3).

Table 3. The linguistic diversity of SPP teachers increased from 2016–17 to 2021–22

	Program year					
	2016-17	2017-18	2018-19	2019-20	2020-21	2020-21
Percent of linguistically diverse teachers	40%	48%	41%	41%	49%	48%
Total number of teachers	63	115	152	208	218	236

Source: Authors’ analysis of Seattle Department of Education and Early Learning data.

Teacher race/ethnicity and linguistic diversity varied greatly by site type

SPP sites run by CBOs had the most balanced teaching force in terms of racial and ethnic identities, with many racial/ethnic groups represented. FCCs had the highest percentage of teachers of color (95 percent), followed by CBOs (77 percent), and SPS preschools (42 percent).

- At SPP SPS preschools, the majority of teachers were white (58 percent), followed by Black (19 percent), Latinx (11 percent), Asian (6 percent), and all other racial/ethnic groups (2 percent or less).
- At SPP CBOs, the majority of teachers were Asian (29 percent), followed by White (23 percent), Latinx (20 percent), Black (20 percent), and all other races (3 percent or less).
- At SPP FCCs, the majority of teachers were Black (87 percent). White teachers comprised about 5 percent of all teachers, and all other racial/ethnic groups were less than 3 percent.

Similar patterns existed for linguistic diversity. In 2021–22, FCCs employed the highest proportion of linguistically diverse teachers at 64 percent, followed by CBOs (54 percent), and SPS preschools (27 percent).

Alignment between educator and child demographic characteristics

This section describes the alignment between educator and child demographic characteristics. First, we describe alignment in terms of gender; next, we examine alignment of racial/ethnic identities; and lastly, we examine alignment of linguistic diversity.

Most SPP teachers are female (89 percent in 2021–22), while about half of SPP students (50 percent in 2021–22) are male.²³ In 2021–22, 11 percent of all SPP children (male, female, or nonbinary) were taught by at least one male teacher. Among male SPP children only, this percentage increased slightly to 12 percent.

In 2021–22, 78 percent of all SPP children and 80 percent of all SPP children of color were taught by at least one teacher of color

Children of color²⁴ who are taught by a teacher of the same race tend to be more successful academically, behaviorally, and socio-emotionally (Gershenson et al., 2017; Joshi et al, 2018), in part due to beliefs that intelligence is malleable and due to the use of culturally responsive teacher practices (Blazar, 2021).

Most SPP children were taught by at least one teacher of color (including lead teachers and assistant teachers). In 2021–22, 78 percent of all SPP children received instruction from a teacher of color, an increase from 48 percent in 2016–17 (see table A5 in appendix).

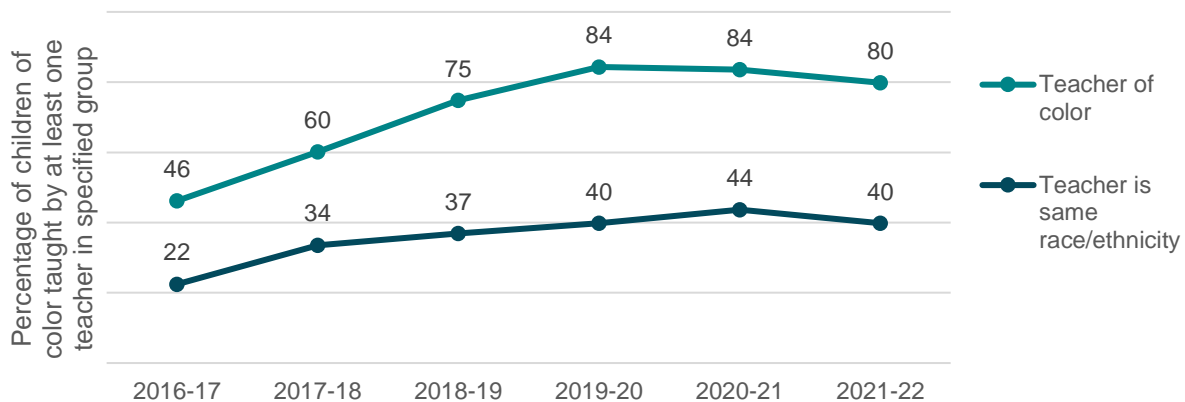
For the past five years, children of color have represented 75 percent to 77 percent of children enrolled in SPP. Among children of color, 46 percent had at least one teacher of color in 2016–17 and 80 percent had at least one teacher of color in 2021–22 (figure 9). In the initial years of SPP, this percentage increased, but it decreased from 2020–21 to 2021–22. In 2021–22, 40 percent of children of color were taught by a teacher of the same race/ethnicity; this percentage followed a similar pattern of increase in the early years of SPP and decrease in the latest year shown.

Recommendation: Identify SPP sites that are struggling to recruit and retain teachers whose characteristics are like children they serve and work with them to improve recruitment and retention.

²³ Less than 1 percent of teachers identified as nonbinary. The number of nonbinary children has remained under 10 each year.

²⁴ Children and teachers of color in this evaluation are defined as those who reported their racial/ethnic identity as American Indian/Alaska Native, Asian, Black, Latinx, North African/Middle Eastern, Native Hawaiian/Pacific Islander, or two or more races.

Figure 9. The percentage of children of color in SPP taught by at least one teacher of color or one teacher of the same race/ethnicity decreased in the latest year, 2016–17 to 2021–22



Source: Authors' analysis of Seattle Department of Education and Early Learning data.

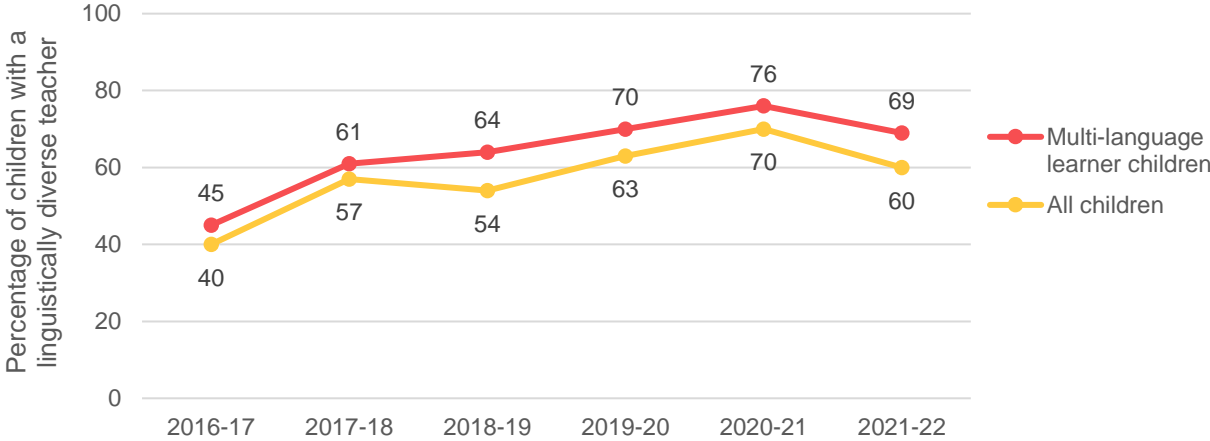
The proportion of SPP children taught by a linguistically diverse teacher has increased over time

The proportion of SPP children taught by a linguistically diverse teacher has increased over time, from 40 percent in 2016–17 to 60 percent in 2021–22 (figure 10).²⁵ It is even more common for multi-language learner SPP children to have a teacher with the same characteristic. In 2021–22, over two-thirds (69 percent) of multi-language learner children had a linguistically diverse teacher, an increase of 24 percentage points since 2016–17 (figure 10). The percentage of multi-language learner children with at least one teacher who spoke the same primary language was between 25 and 32 percent in each of the last four years (2018–19 through 2021–22).

Recommendation: Determine a goal for the ideal level of teacher-child race/ethnic and language alignment within SPP and track progress toward that goal over time.

²⁵ Data on languages spoken by SPP teachers did not include information on whether the level of proficiency in a language was high enough to communicate with children and families in that language.

Figure 10. The percentage of SPP children taught by at least one linguistically diverse teacher has increased over time, 2016–17 to 2021–22



Source: Authors’ analysis of Seattle Department of Education and Early Learning data.

Educator time teaching in SPP, retention in SPP, education level, and qualifications

Time teaching in SPP was higher for lead teachers than assistant teachers

The time teaching in SPP in 2021–22 is calculated based on the number of years a teacher has been in SPP, regardless of site, classroom, or position (lead or assistant). By 2021–22, there was a range of SPP tenure across teachers, with some teachers in their first year (a tenure of 1) and others in their sixth year with SPP (a tenure of 6). On average, SPP teachers had been teaching in SPP about two years, and the median tenure was one year. These low values were driven by SPP sites that recently opened—at sites that joined SPP one or two years ago, all but two or three teachers unsurprisingly have one or two years of tenure. Among sites that joined SPP four, five, or six years ago, teacher time in SPP is predictably higher—an average of 3.2 years teaching in SPP. This varied slightly by type of site, ranging from 2.2 years for teachers at FCCs, to 2.4 years at CBOs, to 2.8 years at SPS preschools among sites that had been in SPP for four years. Among sites that had been in SPP for five years, the average time teaching in SPP was 2.9 years in CBOs, 3.2 years in FCCs, and 3.5 years in SPS preschools.

Lead teachers had a higher average time teaching in SPP than assistant teachers: 3.6 years compared to 2.7 years in 2021–22 among sites with five years in SPP.

Retention rates within SPP varied between 65 and 80 percent across time

Retention rates varied between 65 percent and 80 percent between 2016–17 to 2020–21 (table 4). We calculate the retention rate in this report as the percentage of teachers in a given year who

remain teaching in SPP the following year. Across 2016–17 to 2020–21, retention increased by 5 percentage points. Similarly, in the latest two years of available data—years which include the COVID-19 pandemic—retention also increased by 5 percentage points (from 68 to 73 percent).

Table 4. Retention of SPP teachers increased from 2016–17 to 2020–21

	Program year				
	2016-17	2017-18	2018-19	2019-20	2020-21
Percent retained the following year	68%	65%	80%	68%	73%
Total number of teachers	63	115	152	208	218

Source: Authors’ analysis of Seattle Department of Education and Early Learning data.

Retention rates vary by site type, teacher racial/ethnic identity, and lead/assistant teacher role:

- *Site type.* SPS preschools and FCCs have higher retention rates than CBOs. However, this could reflect that CBOs may have more non-SPP classrooms than SPS preschools or FCCs, and teachers who are transferred to a non-SPP classroom would not be counted as retained in this analysis.
- *Teacher racial/ethnic identity.* Among teachers of color, the retention rate in 2020–21 was lower (74 percent) than among white teachers (80 percent).
- *Lead/assistant teacher role.* Lead teachers had higher retention rates in SPP than assistant teachers: for example, 80 percent of lead teachers were retained in 2020–21 compared to 64 percent of assistant teachers in the same year.

Degree information is missing for most SPP teachers

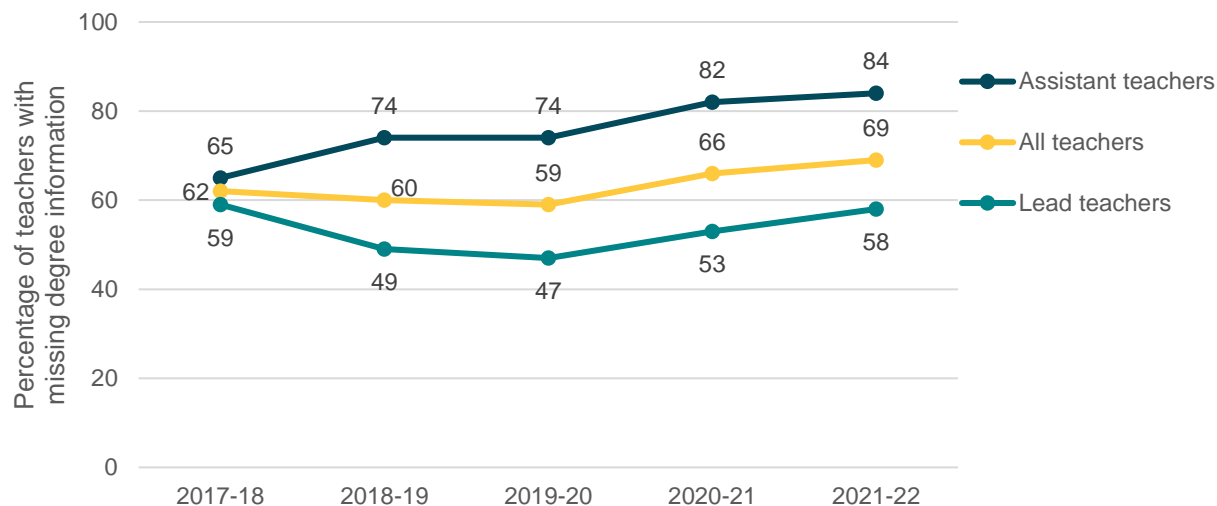
Degree information for SPP teachers is frequently missing from DEEL data. Over two-thirds (69 percent) of teachers were missing degree information in 2021–22, and the percentage with missing information has increased from 62 percent in 2017–18. Assistant teachers have a higher proportion of missing data than lead teachers—84 percent were missing degree information in 2021–22, compared to 57 percent for lead teachers (figure 11).

Among those SPP lead teachers with degree information in 2021–22, the percentage of SPP teachers of color who have attained bachelor’s or master’s degrees (79 percent) was lower than the percentage of white SPP teachers with these degrees (94 percent).

Recommendation: DEEL should continue providing supports that help teachers overcome systemic racial and linguistic barriers to higher education and close qualification gaps between educators in different demographic groups.

Collect more information about all teachers’ educational background—especially assistant teachers—to identify continuing education and training needs.

Figure 11. Most SPP teachers have missing degree information, and the rates of missing data are higher among assistant teachers, 2017–18 to 2021–22



Source: Authors' analysis of Seattle Department of Education and Early Learning data.

The percentage of lead teachers meeting qualifications decreased since 2017–18

SPP lead teachers are required to have a bachelor’s degree or higher in early childhood or a bachelor’s degree in another content area with 30 or more early childhood college credits. SPP assistant teachers must have an associate degree or higher in early childhood or an associate degree in another content area with 20 or more early childhood college credits (see table A6 in appendix for full information regarding requirements). Teachers who do not have these degrees and/or credits must develop a plan for meeting the requirements and must increase their education to that level within four years. This analysis focuses on lead teachers, as their qualification data is more reliable. FCC teachers are the exception to these SPP-specific requirements, as they are required to meet state requirements of a high school diploma or equivalent and commit to working toward an associate degree in early childhood; FCC teachers are not included in the analysis below.

Overall, in 2021–22, 55 percent of SPP lead teachers met or exceeded qualifications. This rate has decreased from the 73 percent of lead teachers who met or exceeded qualifications in 2017–18. Among lead teachers who had been teaching in SPP

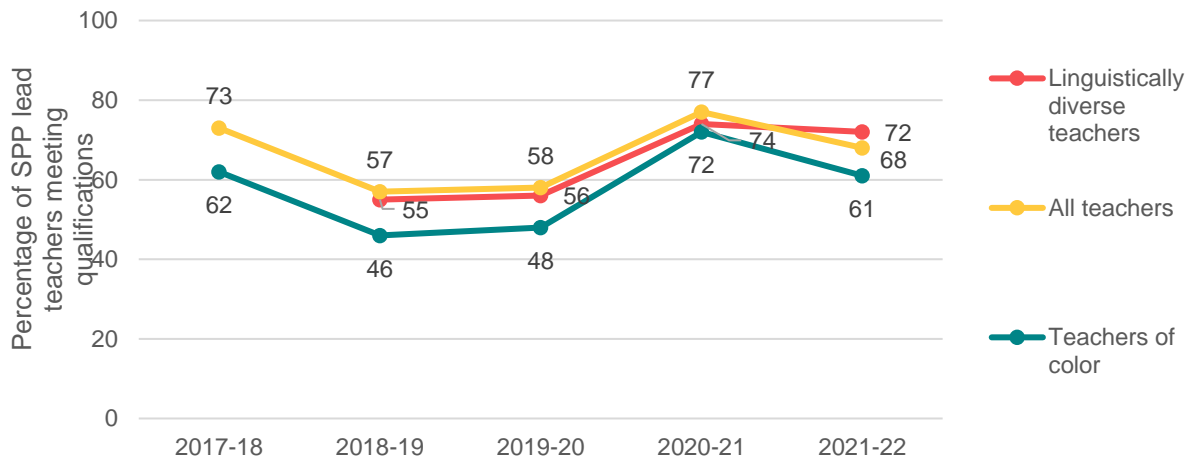
Recommendation: To ensure teachers can meet qualifications, DEEL should consider additional supports to help teachers overcome systemic barriers to higher education and collect more information about assistant teachers and whether they meet qualifications to help identify continuing education and training needs.

for four or more years, 80 percent met qualifications in 2021–22 and 2021–22 (after having taught for at least 4 years in SPP).²⁶

The proportion of SPP lead teachers in CBOs meeting qualifications decreased 17 percentage points between 2017–18 and 2021–22, although this decrease was not consistent over time. The proportion of SPP lead teachers in SPS preschools meeting qualifications also decreased, but to a lesser degree (9 percentage points between 2017–18 and 2021–22). In addition, a higher proportion of lead teachers at SPS preschools met teacher qualifications than lead teachers at CBOs (by 21 to 41 percentage points each year).

Compared to all lead teachers, lower percentages of lead teachers of color met teacher qualifications in most years (figure 12), perhaps reflecting systemic barriers to higher education for communities of color. Over time, the gap in meeting qualifications between all lead teachers and lead teachers of color has decreased—the rate of SPP lead teachers of color meeting qualifications has remained steady, while the overall rate decreased. Among linguistically diverse lead teachers, the percentage of lead teachers meeting qualifications was slightly lower from 2018–19 to 2020–21 than among all lead teachers. However, in 2021–22, the percentage of linguistically diverse lead teachers meeting qualifications (72 percent) was higher than among all lead teachers (68 percent), demonstrating an increase over time.

Figure 12. The percentage of all SPP lead teachers meeting qualifications has decreased over time; for lead teachers of color, this percentage has remained steady, while for linguistically diverse lead teachers, this percentage has increased, 2017–18 to 2021–22



Source: Authors' analysis of Seattle Department of Education and Early Learning data.

²⁶ Results for these two years are combined due to small numbers of teachers. Breakdowns of the percentage of SPP lead teachers who had been teaching in SPP for four or more years—such as by site type—are not available due to small numbers of teachers.

Recommendations

The recommendations in this section are compiled from the recommendations provided throughout the report and are organized by theme.

Data collection and research

- SPP does not collect reliable data on children with an IEP. We recommend collecting this data in order to inform decisions on how to support children with IEPs.
- DEEL and the evaluation team do not have access to data on preschool program participation or prior assessment performance for non-SPP children in SPS. There is a need for more rigorous research that can match SPP children to participants in another preschool program, as well as a need for better data collection regarding preschool experiences upon kindergarten entry.
- Degree information is missing for most SPP teachers, and rates of missing data are particularly high for assistant teachers. Collecting more information about all teachers' educational background and whether these teachers meet qualifications can help DEEL better understand how these teachers interact with the education system and help identify and overcome barriers to continuing education and training.
- Although TSG assessment results have been relatively high, they have declined in recent years. It will be important for DEEL to track these results over the next few years to see if this pattern changes.
- CLASS scores for all three domains of interaction quality at SPS preschools improved while scores declined at other types of SPP sites. Studying CLASS assessment results at SPS preschools may yield additional information about effective practices, which could be replicated at other sites through strategic coaching and professional development. CLASS scores in ECEAP classrooms have also improved over time. It may be helpful to study how SPP ECEAP classrooms have worked to improve quality over the last three years and bring lessons learned back to other SPP sites.

Educator recruitment and retention

- SPP providers employ a racially/ethnically and linguistically diverse teaching staff. We recommend that DEEL and its providers continue efforts to recruit, retain, celebrate, and support this diverse workforce. Increasing funding for high-quality training on diversity, equity, inclusion, and social justice and streamlining access to that funding may help to support a diverse workforce. SPP should also continue and expand efforts to strategically recruit linguistically diverse teachers and staff members to provide instruction for children and translation/interpretation for families.

- Although many SPP children have at least one teacher of the same race/ethnicity or who speaks the same language, some sites may need additional support. We recommend identifying SPP sites that are struggling to recruit and retain teachers whose characteristics are similar to children they serve and strategizing with them about how to improve recruitment and retention.
- The percentage of lead teachers who met or exceeded qualifications decreased between 2017-18 and 2021-22, and among SPP lead teachers with degree information, teachers of color had lower rates of a bachelor's or master's degree. DEEL should expand supports that help teachers overcome systemic racial and linguistic barriers to higher education and close qualification gaps between educators in different demographic groups. For example, DEEL could partner with a college to offer early childhood credentials in additional languages and consider forming cohorts of SPP teachers to help support each other's progress through the postsecondary system.
- A higher proportion of SPP assistant teachers are people of color and/or linguistically diverse compared to lead teachers. To support continued diversity in the SPP workforce, SPP needs to ensure a pathway for assistant teachers to become lead teachers and continue efforts to recruit, train, and promote diverse assistant teachers. DEEL could create a pathway for these teachers to earn additional credits in early childhood and build on their existing degrees (which may not be in early childhood) in order to meet qualification requirements. Additionally, DEEL could examine existing systemic barriers to entering the SPP teaching workforce, especially for people of color, and seek to mitigate them.
- Given that children of more experienced SPP teachers met TSG growth targets at higher rates, DEEL should consider ways to support SPP programs in retaining experienced teachers.

Educator training and SPP site support

- Given the diverse population of children served by SPP, continued cultural and linguistic bias training for DEEL and SPP staff and teachers is key, and additional support for interpretation or translation may help support linguistically diverse children and families.
- DEEL may consider providing additional training on TSG data entry, especially given pandemic-related disruptions to learning and potential inherent educator biases. DEEL may also wish to encourage use of qualitative information entered into the TSG system.
- The declines in the percent of SPP children meeting TSG growth targets were largest in the social-emotional and math domains, indicating the need for additional support for SPP children's social-emotional and math instruction. DEEL might consider providing a dedicated curriculum and additional resources for mental health supports. Additionally, SPP teachers may benefit from training and coaching to support math instruction as well as math resources to use in their classrooms.

- Examining TSG growth by domain for classrooms and sites could help tailor coaching supports and training to where it is needed most to support children. Additionally, sites with high growth could provide information to other sites about how to support growth.
- SPP children enrolled at FCCs met TSG growth targets at lower rates than SPP children enrolled at other types of sites. FCCs may benefit from additional coaching and support to help reduce the opportunity gap, especially since Black children are disproportionately enrolled in FCCs.
- CLASS instructional support scores were relatively low in comparison to the other domains across sites, mirroring national trends. Additional coaching and professional development on the components of this domain (curriculum implementation, cognitive, and language development) may help to increase these scores and improve classroom quality, particularly among FCCs, which tended to have lower scores in this domain than CBOs and SPS preschools.
- The high numbers of families and teachers who are racially, ethnically, and linguistically diverse indicate a continued need for high-quality training on diversity, equity, inclusion, and social justice. To encourage attendance at these trainings, DEEL should ensure funding is available for release time and that the process to receive funds is streamlined.

Family outreach and support

- SPP is serving children in Seattle who are racially, ethnically, linguistically, and socio-economically diverse. To ensure continued racial/ethnic diversity, DEEL and SPP providers should use outreach strategies that focus on building trust, two-way communication, and use outreach materials that are understandable and inclusive of the diverse cultures and languages of students and families.
- The percentage of SPP children who are homeless or living in poverty has continued to grow. To address these growing needs, DEEL can support these children and families through wraparound services and other resources. DEEL should consider what additional services could provide support and help provide a bridge to those services.

SPP expansion and goals

- To further promote home language use in the classroom, DEEL may want to consider expanding the number of dual language classrooms and collecting more data on classrooms that use multiple languages but may not meet DEEL's definition of dual language classroom.
- DEEL could consider strategically recruiting more FCC providers in order to serve more low-income Seattle children, as FCC providers tended to have higher percentages of low-income children compared to CBOs or SPS preschools.
- Determine a goal for the ideal level of teacher-child race/ethnic and language alignment within SPP and track progress toward that goal over time.

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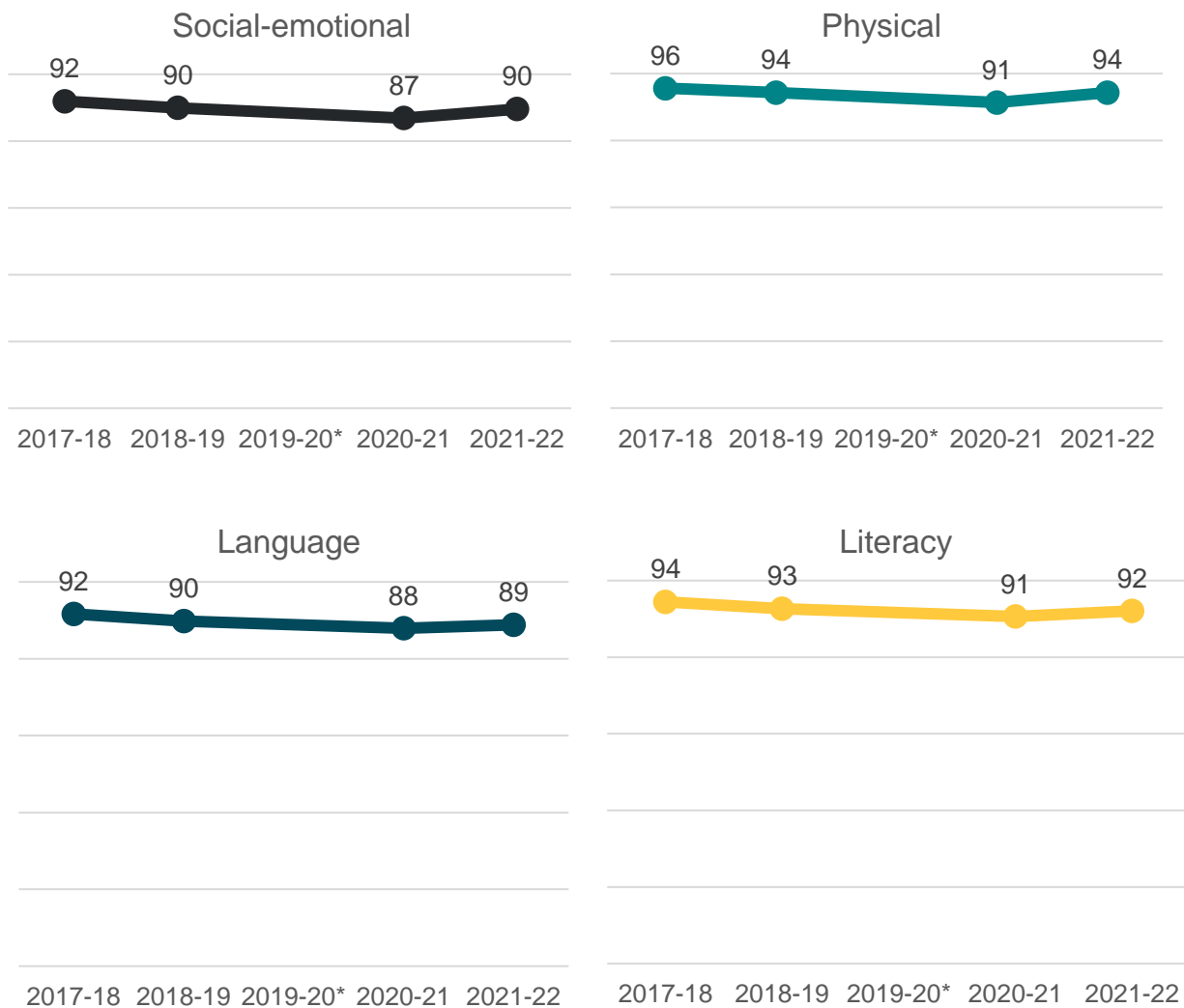
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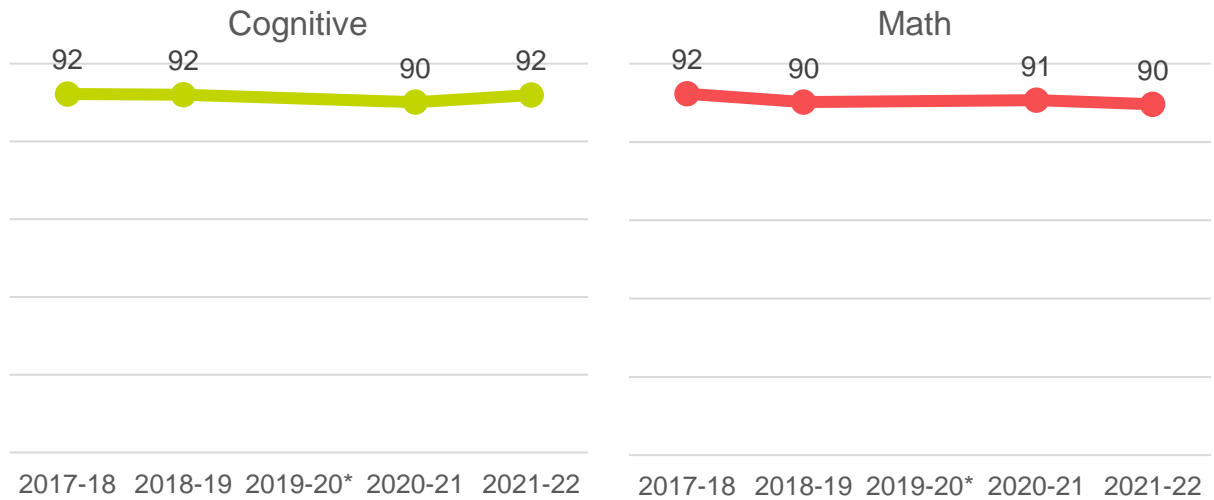
Appendix

TSG widely held expectations and kindergarten readiness thresholds

Between 2017–18 and 2021–22, more than 86 percent of SPP children met or exceeded the spring TSG’s widely held expectations in every year and domain. Achievement of widely held expectations in spring declined across every domain except math from 2017–18 to 2020–21, then increased again in 2021–22 (figure A1). Although increases in 2021–22 may indicate recovery after the learning disruptions of the COVID-19 pandemic, it will be important to continue tracking these patterns over time. A slightly higher proportion of children achieved the spring widely held expectations level in the physical domain than in any other domain in each of the four years.

Figure A1. The percentage of SPP children meeting spring TSG widely held expectations levels decreased and regained over time in most domains, 2017–18 to 2021–22





* The number of TSG participants in 2019–20 was low due to the COVID-19 pandemic, and their results are not shown. Data from 2020–21 and 2021–22 likely also suffered from pandemic-related disruptions and may be less reliable than earlier years.

Source: Authors’ analysis of Seattle Department of Education and Early Learning data.

The percentage of SPP children who were ready for kindergarten²⁷ as of the spring of their final preschool year was above 75 percent in all domains in 2021–22 (table A1). This measure also declined across every domain between 2017–18 and 2020–21 before increasing in four out of six domains (math, cognitive, social-emotional, and physical) in 2021–22. A higher percentage of SPP children were kindergarten ready in the physical domain and a lower proportion were kindergarten ready in the math domain compared to other domains.

Table A1. The percentage of SPP children meeting spring TSG kindergarten readiness levels decreased and regained over time in most domains, 2017–18 to 2021–22

TSG domains	Program year			
	2017-18	2018-19	2020-21	2021-22
Social-emotional	90	85	80	84
Physical	95	92	89	90
Language	89	87	83	82
Literacy	86	85	78	77
Cognitive	91	88	84	86
Math	82	79	74	76

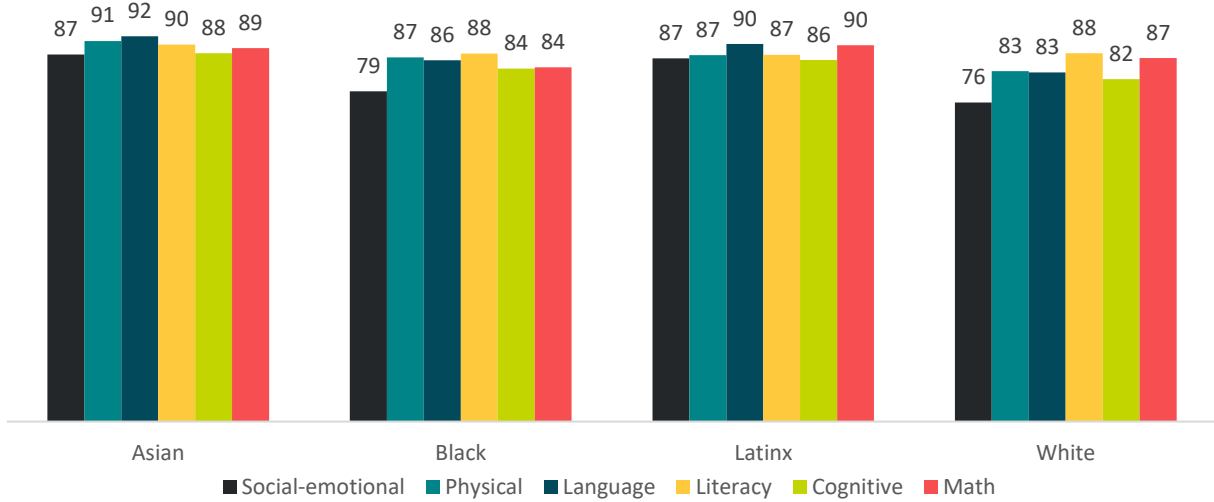
Note: The number of TSG participants in 2019–20 was very low, and their results are not reported here.

Source: Authors’ analysis of Seattle Department of Education and Early Learning data.

²⁷ This analysis included SPP children who were four years of age or older.

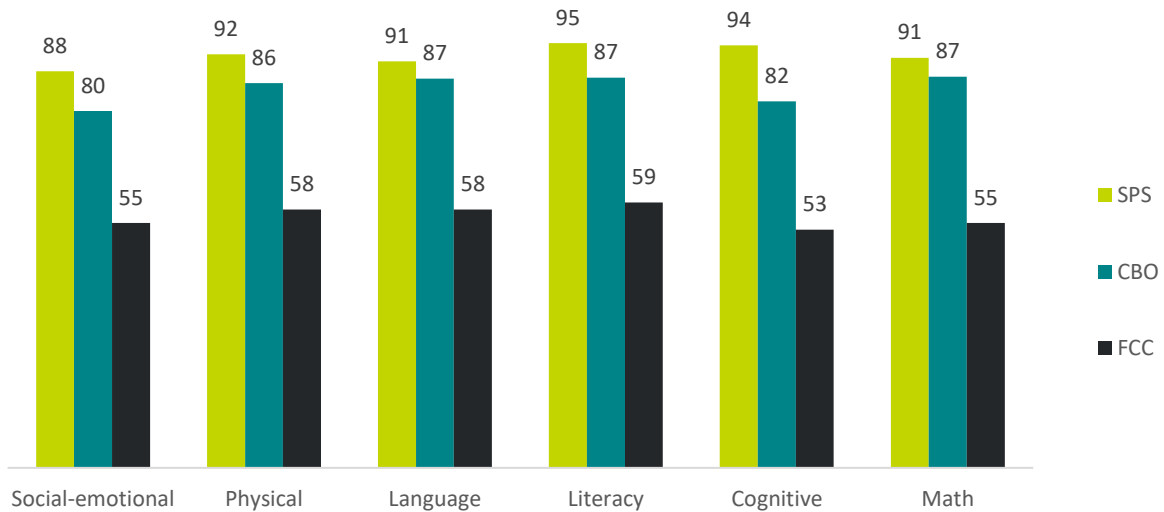
These figures show the percentage of SPP children meeting TSG growth targets by race/ethnicity and site type (figures A2–A3).

Figure A2. Percentage of SPP children meeting TSG growth targets by SPP race/ethnicity and domain, 2021–22



Source: Authors’ analysis of Seattle Department of Education and Early Learning data.

Figure A3. Percentage of SPP children meeting TSG growth targets by SPP site type and domain, 2021–22



Source: Authors’ analysis of Seattle Department of Education and Early Learning data.

WaKIDS

These tables (tables A2–A4) show full regression results for WaKIDS.

Table A2. Regression results for meeting kindergarten readiness standards in all six WaKIDS domains

Variables	2017–18	2018–19	2019–20	2021–22
SPP	-0.162 (0.146)	-0.115 (0.194)	0.004 (0.115)	0.106 (0.131)
Asian	-0.020 (0.181)	-0.098 (0.213)	-0.280 (0.167)	-0.208 (0.178)
Black	-0.757*** (0.188)	-0.631** (0.219)	-0.524** (0.184)	-0.786*** (0.173)
Latinx	-0.602*** (0.167)	-0.438* (0.211)	-0.677*** (0.165)	-0.817*** (0.187)
Female	0.320** (0.120)	0.380*** (0.105)	0.244** (0.089)	0.523*** (0.113)
IEP	-1.237*** (0.298)	-1.843*** (0.199)	-1.516*** (0.195)	-1.551*** (0.157)
English learner	-0.879*** (0.205)	-0.722*** (0.145)	-0.584*** (0.128)	-0.638*** (0.140)
Age	0.067 (0.292)	-0.498 (0.338)	-0.307 (0.408)	-0.450 (0.246)
Constant	0.510 (1.456)	3.159 (1.696)	2.804 (2.443)	3.229* (1.271)
Number of children	4364	4487	4477	3819

* $p < 0.05$; ** $p < 0.01$; *** $p < 0.001$

Note: Standard errors in parentheses.

Source: Authors' analysis of Seattle Department of Education and Early Learning data.

Table A3. Regression results for meeting kindergarten readiness standard in each WaKIDS domain
 Panel A. Social-emotional and physical domains

	Social-emotional				Physical			
	2017–18	2018–19	2019–20	2021–22	2017–18	2018–19	2019–20	2021–22
SPP	-0.238 (0.181)	-0.365* (0.167)	-0.086 (0.126)	0.098 (0.147)	-0.191 (0.158)	-0.064 (0.197)	0.424** (0.143)	0.473** (0.181)
Asian	0.342 (0.306)	0.367 (0.241)	-0.082 (0.186)	-0.315 (0.231)	0.299 (0.335)	-0.069 (0.304)	0.076 (0.281)	-0.207 (0.267)
Black	-0.678** (0.257)	-0.679*** (0.179)	-0.640** (0.207)	-0.638** (0.225)	-0.597** (0.201)	-0.574* (0.254)	-0.228 (0.246)	-0.333 (0.260)
Latinx	-0.136 (0.249)	-0.308 (0.211)	-0.174 (0.186)	-0.715*** (0.212)	0.176 (0.267)	-0.240 (0.261)	-0.534* (0.234)	0.009 (0.283)
Female	0.718*** (0.206)	0.722*** (0.169)	0.534*** (0.116)	0.776*** (0.145)	0.778*** (0.226)	0.304 (0.187)	0.719*** (0.161)	0.697*** (0.155)
IEP	-1.634*** (0.238)	-1.767*** (0.222)	-1.787*** (0.186)	-1.734*** (0.205)	-1.277*** (0.259)	-1.680*** (0.181)	-1.433*** (0.269)	-1.579*** (0.226)
English learner	-0.600** (0.198)	-0.252 (0.156)	-0.064 (0.159)	-0.215 (0.184)	-0.440 (0.253)	-0.130 (0.173)	-0.118 (0.201)	-0.179 (0.223)
Age	-0.418* (0.185)	-0.093 (0.575)	0.147 (0.505)	-0.190 (0.289)	-0.026 (0.252)	0.466 (0.430)	0.815* (0.388)	-0.240 (0.334)
Constant	3.863*** (0.911)	1.967 (2.886)	0.951 (3.037)	2.845 (1.488)	1.989 (1.290)	-0.127 (2.175)	-2.656 (2.410)	3.291 (1.752)
Number of children	4372	4495	4497	3839	4372	4496	4500	3861

Panel B. Language and cognitive domains

	Language				Cognitive			
	2017–18	2018–19	2019–20	2021–22	2017–18	2018–19	2019–20	2021–22
SPP	-0.047 (0.209)	-0.034 (0.212)	0.522*** (0.147)	0.230 (0.145)	-0.142 (0.151)	-0.132 (0.172)	0.197 (0.138)	0.097 (0.151)
Asian	-0.149 (0.232)	-0.475* (0.212)	-0.563** (0.185)	-0.729*** (0.219)	0.226 (0.291)	-0.050 (0.268)	-0.475 (0.253)	-0.171 (0.227)
Black	-0.630** (0.222)	-0.569* (0.247)	-0.707** (0.242)	-1.049*** (0.238)	-0.816*** (0.205)	-0.731** (0.222)	-1.049*** (0.211)	-1.079*** (0.239)
Latinx	-0.213 (0.239)	-0.541** (0.192)	-0.762*** (0.200)	-0.938*** (0.252)	-0.224 (0.230)	-0.536** (0.208)	-0.524** (0.192)	-0.677** (0.233)
Female	0.437** (0.134)	0.186 (0.120)	0.453*** (0.126)	0.717*** (0.158)	0.370* (0.160)	0.397** (0.133)	0.103 (0.118)	0.651*** (0.140)
IEP	-1.179*** (0.265)	-2.066*** (0.184)	-1.568*** (0.188)	-2.095*** (0.200)	-1.259*** (0.221)	-1.612*** (0.169)	-1.533*** (0.188)	-1.689*** (0.189)
English learner	-1.242*** (0.158)	-0.980*** (0.166)	-0.907*** (0.157)	-0.788*** (0.209)	-0.777** (0.248)	-0.582*** (0.150)	-0.288 (0.149)	-0.597*** (0.173)
Age	0.225 (0.317)	0.209 (0.399)	-0.318 (0.340)	-0.142 (0.302)	-0.246 (0.246)	0.254 (0.352)	-0.022 (0.353)	-0.418 (0.285)
Constant	0.620 (1.571)	0.942 (2.019)	3.827 (2.073)	2.924 (1.567)	3.024* (1.215)	0.307 (1.777)	2.323 (2.128)	4.112** (1.501)
Number of children	4371	4495	4487	3868	4370	4490	4483	3857

Panel C. Literacy and math domains

	Literacy				Math			
	2017–18	2018–19	2019–20	2021–22	2017–18	2018–19	2019–20	2021–22
SPP	-0.163 (0.190)	0.189 (0.200)	0.512** (0.165)	0.297 (0.181)	-0.077 (0.203)	-0.034 (0.163)	0.177 (0.147)	0.118 (0.147)
Asian	0.333 (0.355)	-0.056 (0.322)	-0.570** (0.220)	-0.161 (0.205)	0.085 (0.277)	0.186 (0.252)	-0.088 (0.216)	0.064 (0.233)
Black	-0.631* (0.279)	-0.848** (0.279)	-1.568*** (0.277)	-1.272*** (0.261)	-0.746** (0.269)	-0.856*** (0.237)	-0.977*** (0.246)	-1.081*** (0.190)
Latinx	-0.574 (0.294)	-1.081*** (0.271)	-1.650*** (0.231)	-1.289*** (0.319)	-0.778*** (0.199)	-0.751** (0.241)	-0.923*** (0.213)	-1.238*** (0.207)
Female	0.004 (0.169)	0.240 (0.157)	0.130 (0.148)	0.493*** (0.144)	-0.058 (0.167)	-0.115 (0.111)	-0.322** (0.109)	0.018 (0.148)
IEP	-1.232*** (0.249)	-1.574*** (0.186)	-1.354*** (0.172)	-1.783*** (0.227)	-1.186*** (0.308)	-1.621*** (0.146)	-1.184*** (0.164)	-1.476*** (0.155)
English learner	-1.191*** (0.216)	-0.641*** (0.170)	-0.378* (0.163)	-0.803*** (0.236)	-0.901*** (0.198)	-0.604*** (0.143)	-0.478*** (0.143)	-0.740*** (0.175)
Age	-0.237 (0.206)	0.300 (0.311)	-0.486* (0.222)	0.090 (0.379)	0.214 (0.372)	-0.379 (0.380)	-0.210 (0.259)	-0.635* (0.284)
Constant	3.840*** (1.025)	0.968 (1.586)	5.915*** (1.393)	2.409 (1.968)	1.030 (1.879)	3.863* (1.904)	3.524* (1.562)	5.595*** (1.492)
Number of children	4368	4490	4494	3860	4368	4491	4497	3860

* p < 0.05; ** p < 0.01; *** p < 0.001

Note: Standard errors in parentheses.

Source: Authors' analysis of Seattle Department of Education and Early Learning data.

Table A4. Regression results for scale score in each WaKIDS domain

Panel A. Social-emotional and physical domains

	Social-emotional				Physical			
	2017–18	2018–19	2019–20	2021–22	2017–18	2018–19	2019–20	2021–22
SPP	-0.496 (8.492)	-6.981 (5.994)	-4.184 (4.323)	5.124 (4.900)	1.898 (9.126)	-1.162 (7.225)	7.854 (4.711)	11.305* (5.482)
Asian	8.449 (8.672)	5.608 (6.178)	-4.866 (5.220)	-5.359 (4.225)	8.034 (10.919)	7.549 (8.002)	7.072 (7.474)	-1.759 (5.509)
Black	-18.740** (6.804)	-30.581*** (6.998)	-26.616*** (7.037)	-19.541** (7.093)	-20.636 (10.492)	-21.003* (10.399)	-18.587* (8.722)	-15.689* (7.250)
Latinx	-0.575 (9.713)	-17.701** (5.998)	-15.016** (4.951)	-8.909 (5.471)	-2.867 (12.790)	-14.567 (7.663)	-14.962 (7.983)	-5.070 (5.396)
Female	20.568** (7.268)	25.334*** (4.876)	24.213*** (3.212)	23.649*** (3.782)	23.317** (8.765)	21.280*** (6.156)	25.809*** (4.007)	18.044*** (3.423)
IEP	-73.339*** (8.923)	-72.397*** (9.656)	-78.695*** (7.486)	-79.447*** (10.049)	-68.837*** (13.746)	-86.519*** (10.923)	-75.284*** (10.633)	-63.524*** (14.149)
English learner	-18.831*** (5.191)	-11.228** (4.103)	-5.590 (4.251)	-11.189* (4.442)	-20.976* (10.290)	-16.218* (7.566)	-5.654 (6.553)	-5.520 (4.358)
Age	-1.664 (7.183)	16.568 (14.364)	13.296 (12.943)	-6.995 (6.275)	-22.114 (14.214)	-7.199 (20.051)	27.984 (15.040)	-11.513 (8.491)
Constant	440.968*** (35.141)	348.834*** (71.746)	370.842*** (78.579)	534.597*** (32.499)	718.678*** (70.058)	657.892*** (100.690)	473.561*** (92.391)	691.732*** (43.889)
Number of children	4256	4495	4497	3845	4256	4496	4500	3868

Panel B. Language and cognitive domains

	Language				Cognitive			
	2017–18	2018–19	2019–20	2021–22	2017–18	2018–19	2019–20	2021–22
SPP	10.393 (10.488)	3.244 (7.728)	8.298 (5.110)	7.937 (5.780)	0.580 (10.208)	-4.406 (8.396)	4.083 (4.808)	4.939 (4.980)
Asian	-7.851 (8.949)	-8.360 (7.088)	-14.254 (8.109)	-17.847** (5.730)	0.555 (8.474)	10.572 (8.668)	-11.528 (9.057)	-6.480 (5.339)
Black	-25.234** (8.049)	-24.625* (9.494)	-30.794*** (7.210)	-34.341*** (7.067)	-37.709*** (9.907)	-37.421*** (9.582)	-56.420*** (7.608)	-36.884*** (7.160)
Latinx	-15.320 (12.029)	-18.866** (6.551)	-27.826*** (6.173)	-21.432** (6.997)	-8.062 (13.044)	-19.505* (8.041)	-28.135*** (6.634)	-11.158 (7.126)
Female	14.918 (7.979)	15.082*** (4.119)	15.321*** (3.699)	17.926*** (3.215)	15.696 (8.638)	20.053*** (5.282)	11.728** (3.459)	19.469*** (3.873)
IEP	-81.228*** (11.340)	-96.903*** (8.264)	-82.687*** (8.507)	-106.109*** (12.203)	-92.275*** (12.549)	-91.715*** (8.763)	-76.426*** (8.576)	-79.452*** (10.745)
English learner	-50.892*** (7.422)	-52.553*** (7.209)	-46.007*** (5.845)	-33.254*** (5.658)	-29.649*** (7.527)	-31.537*** (5.927)	-18.859** (6.072)	-18.188*** (5.229)
Age	6.764 (10.185)	8.253 (16.645)	-4.329 (14.498)	-5.691 (9.008)	-1.201 (11.601)	14.405 (11.705)	19.906 (16.047)	-8.671 (8.151)
Constant	453.317*** (49.545)	446.781*** (83.868)	528.184*** (88.019)	600.867*** (45.723)	545.004*** (54.396)	457.876*** (59.603)	446.244*** (96.990)	566.985*** (42.329)
Number of children	4255	4495	4487	3875	4254	4490	4483	3865

Panel C. Literacy and math domains

	Literacy				Math			
	2017–18	2018–19	2019–20	2021–22	2017–18	2018–19	2019–20	2021–22
SPP	-5.329 (6.079)	9.241 (7.307)	12.050** (3.563)	3.888 (4.233)	0.224 (4.772)	-0.272 (5.031)	3.555 (3.214)	2.971 (4.674)
Asian	8.713 (7.223)	7.682 (7.841)	1.828 (4.953)	3.665 (4.311)	7.570 (5.707)	10.667* (4.811)	1.898 (5.034)	4.998 (4.676)
Black	-28.702*** (6.983)	-31.835*** (7.629)	-34.706*** (7.219)	-18.772** (5.813)	-23.392*** (6.428)	-31.024*** (6.613)	-31.109*** (6.638)	-27.229*** (5.224)
Latinx	-19.541** (7.026)	-33.085*** (8.732)	-36.600*** (4.886)	-15.451*** (4.200)	-22.432*** (4.937)	-23.643** (8.579)	-33.938*** (5.359)	-22.642*** (5.438)
Female	1.553 (5.188)	5.791 (4.024)	2.605 (2.930)	3.283 (2.118)	-5.342 (5.124)	-6.949* (3.182)	-10.841*** (3.117)	-2.795 (2.823)
IEP	-62.412*** (12.601)	-71.774*** (8.424)	-48.540*** (5.853)	-51.972*** (11.286)	-50.661*** (10.277)	-63.364*** (6.263)	-38.831*** (5.090)	-57.217*** (9.885)
English learner	-40.412*** (5.330)	-35.832*** (5.303)	-21.528*** (4.845)	-17.089*** (3.337)	-34.930*** (5.516)	-30.269*** (4.796)	-17.949*** (4.462)	-21.660*** (4.436)
Age	0.635 (8.165)	7.451 (11.725)	-8.042 (10.111)	-4.320 (5.584)	11.131 (8.771)	-3.005 (5.848)	-10.467 (11.480)	-14.101* (5.352)
Constant	696.950*** (39.831)	655.869*** (59.572)	747.761*** (60.798)	587.325*** (28.735)	430.339*** (44.387)	500.723*** (29.046)	559.515*** (69.693)	519.752*** (27.364)
Number of children	4252	4490	4494	3860	4252	4491	4497	3860

* p < 0.05; ** p < 0.01; *** p < 0.001

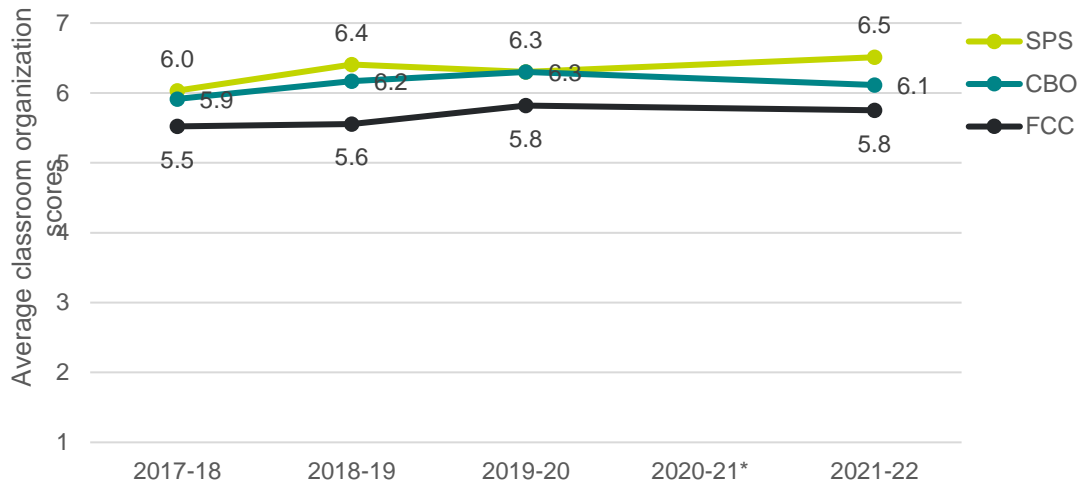
Note: Standard errors in parentheses.

Source: Authors' analysis of Seattle Department of Education and Early Learning data.

CLASS scores

These figures (figures A4–A6) explore CLASS scores by site type.

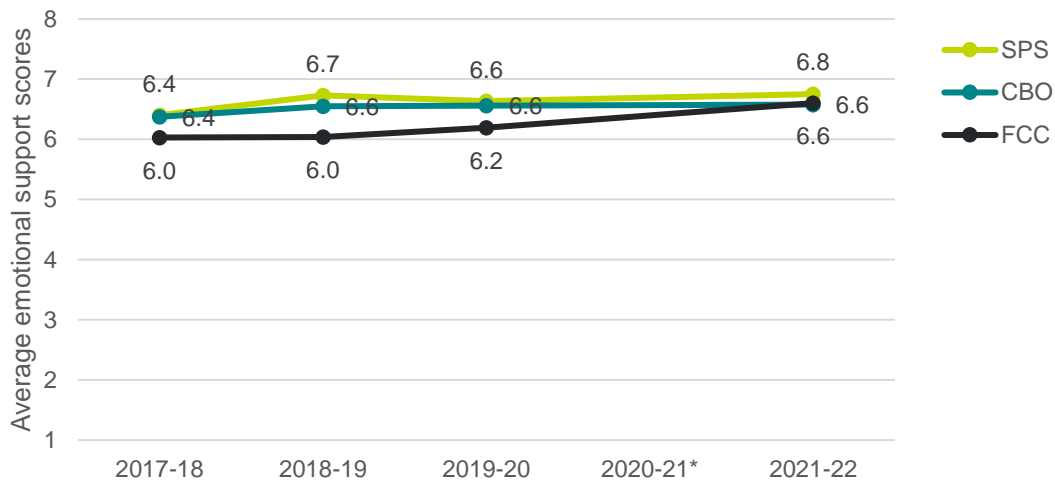
Figure A4. Average CLASS classroom organization scores, by SPP site type, 2021–22



*CLASS observers only rated 12 SPP classrooms in 2020–21. For this reason, CLASS scores are not reported for that year.

Source: Authors' analysis of Seattle Department of Education and Early Learning data.

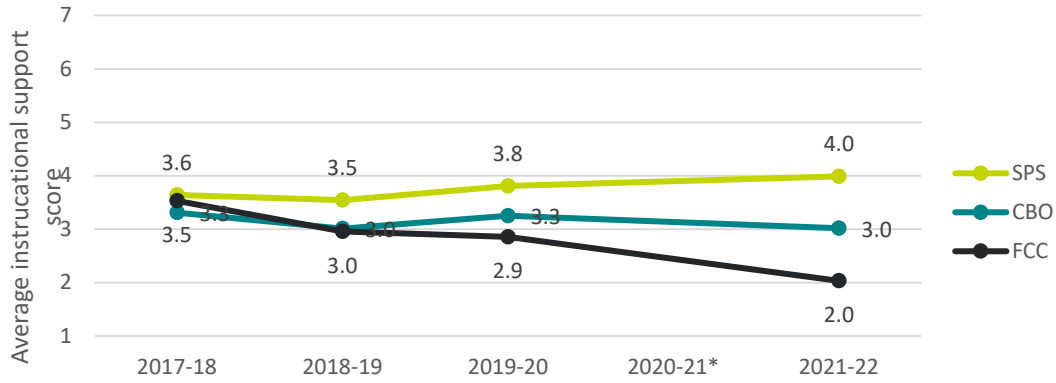
Figure A5. Average CLASS emotional support scores, by SPP site type, 2021–22



*CLASS observers only rated 12 SPP classrooms in 2020–21. For this reason, CLASS scores are not reported for that year.

Source: Authors' analysis of Seattle Department of Education and Early Learning data.

Figure A6. Average CLASS instructional support scores, by SPP site type, 2021–22



*CLASS observers only rated 12 SPP classrooms in 2020–21. For this reason, CLASS scores are not reported for that year.

Source: Authors’ analysis of Seattle Department of Education and Early Learning data.

Alignment between educator and child demographic characteristics

This table (table A5) shows the percentage of children with at least one teacher of color.

Table A5. Percentage of children with at least one teacher of color

	Program year					
	2016–17	2017–18	2018–19	2019–20	2020–21	2021–22
All children	48	59	73	83	81	78
Children of color	46	60	75	84	84	80

Source: Authors’ analysis of Seattle Department of Education and Early Learning data.

Educator qualifications

This table (table A6) shows the staff qualification levels for SPP.

Table A6. Staff qualification levels for lead and assistant teachers in CBO or SPS preschools

Staff level	Qualified degree major	Degree accepted other than ECE degree
SPP director, program supervisor, or lead teacher	Bachelor's degree or higher, verified as "approved" in MERIT in: <ul style="list-style-type: none"> • Early childhood education (ECE) • Early childhood and family studies • Human development with specialization in ECE • Children's studies/childhood education 	<ul style="list-style-type: none"> • A bachelor's degree or higher from an accredited college and verified as "approved" in MERIT • 30 or more approved quarter credits in ECE, verified through MERIT. Up to 10 credits may be classified as ECE-School Age hybrid ("E/S") credits
Assistant teacher	Associate degree or higher, verified as "approved" in MERIT in: <ul style="list-style-type: none"> • Early childhood education • Early childhood and family studies • Human development with specialization in ECE • Children's studies/childhood education 	<ul style="list-style-type: none"> • An associate degree or higher from an accredited college and verified as "approved" in MERIT • 20 or more approved quarter credits in ECE, verified through MERIT. Up to 10 credits may be classified as ECE-School Age hybrid ("E/S") credits

Source: Reproduced from Seattle Department of Education and Early Learning. (n.d.). *Seattle Preschool Program. Program manual. Contract year 2022-23.*