THE SCHOOL DISTRICT OF PHILADELPHIA

Trends in early literacy performance: aimsweb reading assessments from 2014-15 to 2018-19

Key Findings

- *Cohort analyses* revealed improving performance patterns over time: across all three cohorts, in general, there seems to be a pattern of improving performance from 1st to 3rd grade as students spend more years in school.
- *Cross-sectional analyses* revealed different patterns between 1st and 3rd graders across cohorts: the performance of 1st and 2nd graders improved slightly or saw no change between cohorts, but 3rd grade fluctuated more, with a higher percentages of 3rd grade students scoring in the lowest performance group in 2018-19 than in earlier cohorts.
- For all Kindergarten cohorts, students with an Individualized Education Plan (IEP) saw a decline in performance, with increases in the percentage of students who scored in the lowest performance group from 1st grade to 3rd grade.
- For 1st and 2nd graders across the three Kindergarten cohorts, female students, male students, economically disadvantaged students, and English Learners demonstrated improved performance, with decreases in the percentage of students who scored in the lowest performance group across the years of interest. The pattern differed for 3rd graders, as well as students in different racial/ethnic groups and students with IEPs.

Molly Schlesinger, Ph.D.
Senior Research Associate

Roland Reyes,
Senior Statistician

Office of Research and Evaluation

August 2022

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Acknowledgements

Many staff in the office of Evaluation, Research, and Accountability have contributed to data collection, management, and analysis of aimsweb and aimswebPlus data since 2014-15. This report has been funded by a grant from the William Penn Foundation.

Background

From 2014-15 through 2020-21, the School District of Philadelphia (SDP) assessed literacy proficiency for K-5 students using aimsweb and aimswebPlus, universal early literacy screening, benchmarking, and progress-monitoring tools from Pearson. Aimsweb was used from 2014-15 to 2016-17, and its revised version, aimswebPlus, was used from 2017-18 through 2020-21.

Aimsweb and aimswebPlus

Aimsweb and aimswebPlus are comprised of multiple subtests that were administered to SDP students in grades K-5 three times per year.[1] Students received a score based on the number of cues they correctly identified in a 60-second period. Students were required to take one "core" assessment that provided teachers with a consistent measure of student literacy performance. Students in 1st - 3rd grade each took the Reading - Curriculum Based Measurement (R-CBM) from 2014-15 to 2016-17 and Oral Reading Fluency (ORF) measure from 2017-18 to 2018-19 as their core assessment. During the transition from aimsweb to aimswebPlus, the R-CBM was renamed ORF.[2] Kindergarteners took a different literacy assessment,[3] and although 4th and 5th graders also took the R-CBM and ORF during the years of interest, this report focuses on data during students' 1st - 3rd grade years.

National Percentile Rank

As part of the aimsweb and aimswebPlus assessments, students received a National Percentile Rank. A National Percentile Rank is a norm-referenced performance measure that compares students' scaled scores to a nationally representative sample of grade-level peers. The percentile rank is useful for understanding student skill development in comparison to students of the same grade nationally. Based on the number of correct responses, each student is assigned a National Percentile Rank. Percentiles range from 1-99. For example, a percentile rank of 23 indicates that the student is performing better than 23% of the nationally-normed sample based on their number of correct responses. National Percentile Ranks included in this report are from the R-CBM and ORF.

[1] aimswebPlus is a revision of the original aimsweb which the District used from 2014-15 to 2017-18.
[2] During the transition from aimsweb to aimswebPlus, Reading - Curriculum Based Measurement (R-CBM) was renamed Oral Reading Fluency (ORF).
[3] See the *Four-year analysis of 2015-16 Kindergarteners' aimswebPlus reading and PSSA performance from 2015-16 to 2018-19* report for more information about other aimsweb and aimswebPlus literacy assessments students took prior to 2019-20, https://www.philasd.org/research/2021/10/06/four-year-analysis-of-2015-16-kindergarteners-aimswebplus-reading-and-pssa-performance-from-2015-16-to-2018-19/

Performance Groups

Based on their National Percentile Rank, students were placed into one of four performance groupings (Table 1). Aimsweb provides performance groups that give us a more nuanced understanding of student performance while still allowing us to categorize students based on their performance. If our students had similar performance to the national sample, about 50% would have performed in the High Average or Above Average performance groups and the other 50% of our students would have performed in the Below Average or Low Average performance groups. While there are other ways of grouping students (by performance Tiers, for example), performance groups are useful for analyzing how students at various levels of proficiency are performing and improving over time. Performance groups were calculated from the R-CBM and ORF National Percentile Rank.

Table 1. Aimsweb and aimswebPlus assessment Percentile Rank (PR) group names and PR range

Grouping Name	PR Score Range
Above Average	75-99
High Average	50-74
Low Average	26-49
Below Average	1-25

Identifying the Student Sample

Students were included in the analytic sample if they had aimsweb R-CBM or aimswebPlus ORF data in the spring of 1st, 2nd, and 3rd grades between the 2014-15 and 2018-19 school years. Thus, the sample consisted of students who were enrolled in SDP schools during all three years and testing windows. The resulting sample included students who were in Kindergarten in either the 2013-14, 2014-15, or 2015-16 school years because these were the only students who could have three years of aimsweb or aimswebPlus data from 1st to 3rd grade between 2014-15 and 2018-19. The sample was organized into three Kindergarten cohorts.

Student Sample

The demographic makeup of the sample included in this report was consistent across the three Kindergarten cohorts (Table 2). For each cohort, between 44% and 46% of students were Black/African American and 23% were Hispanic/Latinx. Additionally, in each cohort, between 7% to 8% of students had an IEP and between 11% and 13% were English Learners.

Table 2. Demographic sample of students included in the aimsweb analyses

Student Characteristic	2013-14 Kindergarten Cohort (n = 21813)	2014-15 Kindergarten Cohort (n = 21885)	2015-16 Kindergarten Cohort (n = 21705)
Race/Ethnicity			
Asian	8%	8%	8%
Black/African American	44%	46%	45%
Hispanic/Latinx	23%	23%	23%
Multi-Racial/Other	9%	9%	10%
White	16%	14%	14%
Gender			
Female	49%	50%	48%
Male	51%	50%	52%
Socio-Economic Status			
Econ. Disadvantaged	72%	74%	76%
Not Econ. Disadvantaged	28%	26%	24%
Special Education Status			
Students with IEPs	8%	7%	8%
Students without IEPs	92%	93%	92%
English Learner Status			
English Learner	11%	12%	13%
Not an English Learner	89%	88%	87%

Source: Qlik Report Library Academic Screeners, accessed 1/13/2022; Qlik Report Library Enrollment Snapshots (Oct 1), accessed 1/13/2022.
Note: See Appendix A, Table A1 for the number of students in each cell.

Research Questions

Six related research questions guided the analyses described in this report:

1. How did performance on the spring aimsweb reading assessment change for the 2013-14 Kindergarten cohort from 2014-15 (1st grade) to 2016-17 (3rd grade)? Do patterns differ by demographic groups?
2. How did performance on the spring aimsweb reading assessment change for the 2014-15 Kindergarten cohort from 2015-16 (1st grade) to 2017-18 (3rd grade)? Do patterns differ by demographic groups?
3. How did performance on the spring aimsweb reading assessment change for the 2015-16 Kindergarten cohort from 2016-17 (1st grade) to 2018-19 (3rd grade)? Do patterns differ by demographic groups?
4. How did performance on the spring aimsweb reading assessment differ for 1st graders in 2014-15, 2015-16, and 2016-17? Do patterns differ by demographic groups?
5. How did performance on the spring aimsweb reading assessment differ for 2nd graders in 2015-16, 2016-17, and 2017-18? Do patterns differ by demographic groups?
6. How did performance on the spring aimsweb reading assessment differ for 3rd graders in 2016-17, 2017-18, and 2018-19? Do patterns differ by demographic groups?

The analyses are presented in this report in two ways. The first is a *cohort analysis* in which students in the same cohort are followed from 1st to 3rd grade to examine changes and patterns in each group's performance across grade levels. The second analysis is *cross-sectional* and compares the cohorts when they were in the same grade levels in different school years to look at similarities and differences across cohorts.

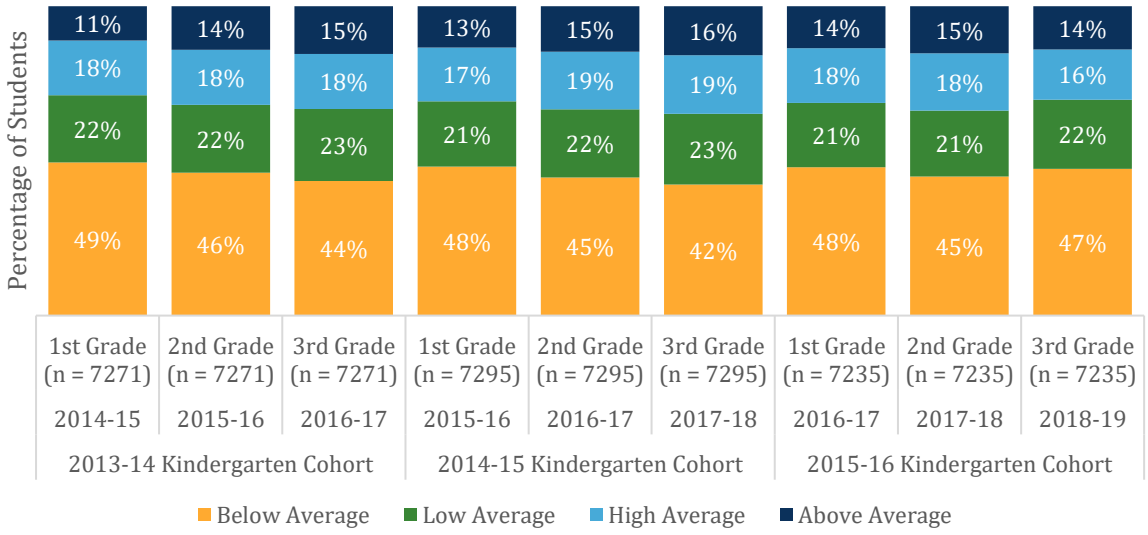
Cohort Analyses Findings

How did performance on the spring aimsweb reading assessment change for the 2013-14 Kindergarten cohort from 2014-15 (1st grade) to 2016-17 (3rd grade)? Do patterns differ by demographic groups?

How did the performance of the same cohorts of students change over time?

Across all three cohorts and school years, 48%-49% of students scored in the Below Average aimsweb Reading performance group during spring of 1st grade (Figure 1). A smaller percentage (44%-46%) of students scored in the Below Average aimsweb Reading performance group during spring of 2nd grade. For the 2013-14 and 2014-15 Kindergarten cohorts, this percentage shrinks further in the spring of 3rd grade with 42%-44% of students scoring in the Below Average aimsweb Reading performance group. This did not continue for the 2015-16 Kindergarten cohort, with 47% of students scoring in the Below Average aimsweb Reading performance group during spring of 3rd grade.

Figure 1. The Percentage of students who performed in the four aimsweb performance groups from 1st grade to 3rd grade for the 2013-14, 2014-15, and 2015-16 Kindergarten cohorts.



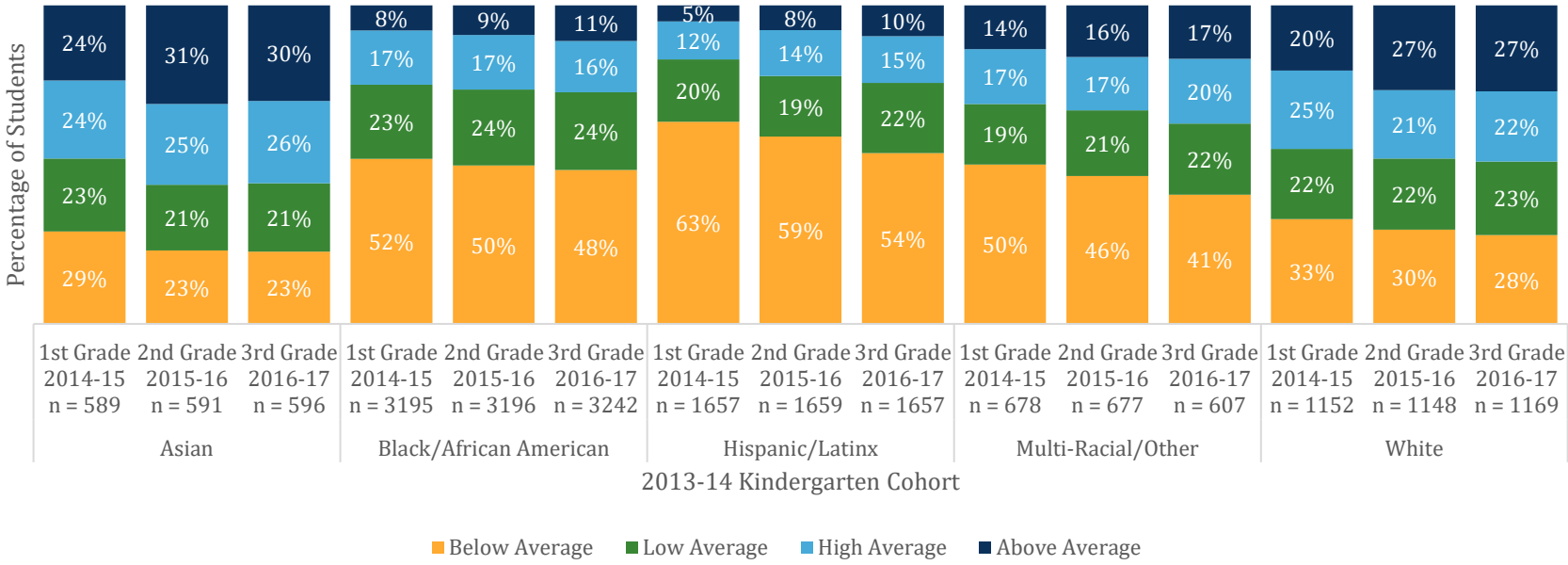
Source: Qlik Report Library Academic Screeners, accessed 1/13/2022; Qlik Report Library Enrollment Snapshots (Oct 1), accessed 1/13/2022.

For the 2013-14 Kindergarten cohort, performance for all racial/ethnic groups improved from 1st to 3rd grade, with a smaller percentage of students scoring in the Below Average group in 3rd grade.

For the 2013-14 Kindergarten cohort, 23%-29% of Asian and 28%-33% of White students scored in the Below Average group from 2014-15 to 2016-17 (yellow section of stacked bars in Figure 2). In comparison, 41%-50% of Multi-Racial/Other students, 48%-52% of Black/African American students, and 54%-63% of Hispanic/Latinx students scored in the Below Average group from 2014-15 to 2016-17.

The percentage of Asian students who scored in the Below Average group decreased by six points, the percentage of Black/ African American students who scored in the Below Average group decreased by four points, the percentage of Hispanic/Latinx students who scored in the Below Average group decreased by nine points, the percentage of Multi-Racial/Other students who scored in the Below Average group decreased by nine points, and the percentage of White students who scored in the Below Average group decreased by five points from 2014-15 to 2016-17. Another interpretation is that for this cohort, performance for all racial/ethnic groups improved from 1st to 3rd grade, with a smaller percentage of students scoring in the Below Average group in 3rd grade.

Figure 2. Percentage of students in each aimsweb performance group in the 2013-14 Kindergarten cohort from 2014-15 to 2016-17 by race/ethnicity student group



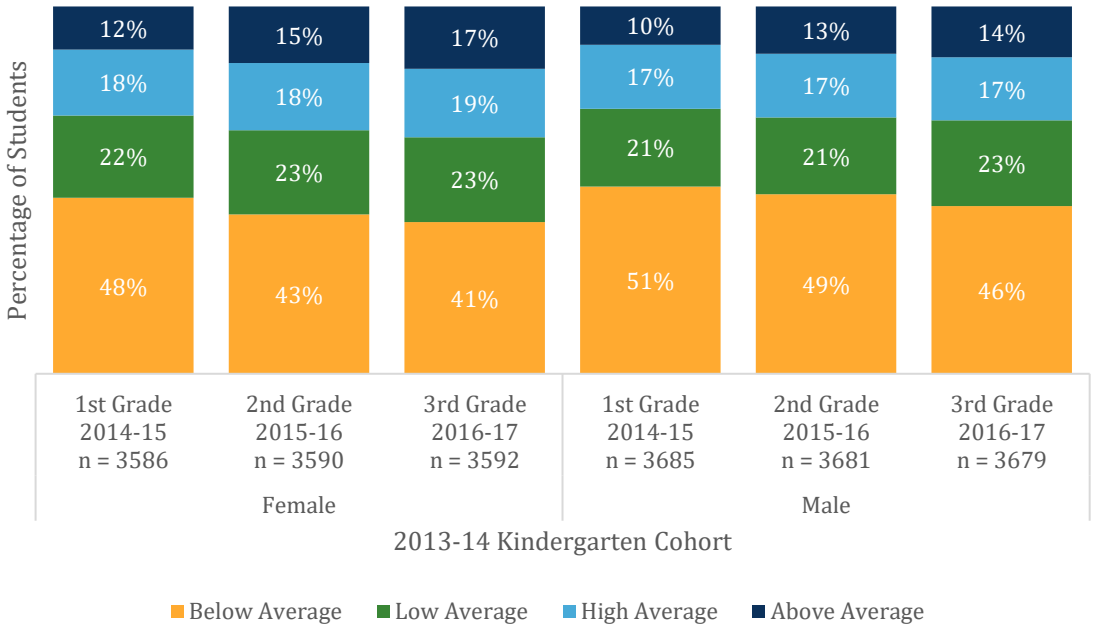
Source: Qlik Report Library Academic Screeners, accessed 1/13/2022; Qlik Report Library Enrollment Snapshots (Oct 1), accessed 1/13/2022.

For the 2013-14 Kindergarten cohort, performance for both female and male students improved from 1st to 3rd grade, with five-to-seven-point decreases in the percentage of students scoring in the Below Average group in 3rd grade.

For the 2013-14 Kindergarten cohort, 41%-48% of female students scored in the Below Average group from 2014-15 to 2016-17 (yellow section of stacked bars in Figure 3). In comparison, 46%-51% of male students scored in the Below Average group from 2014-15 to 2016-17.

The percentage of female students who scored in the Below Average group decreased by seven points, and the percentage of male students who scored in the Below Average group decreased by five points from 2014-15 to 2016-17.

Figure 3. Percentage of students in each aimsweb performance group in the 2013-14 Kindergarten cohort from 2014-15 to 2016-17 by gender student group



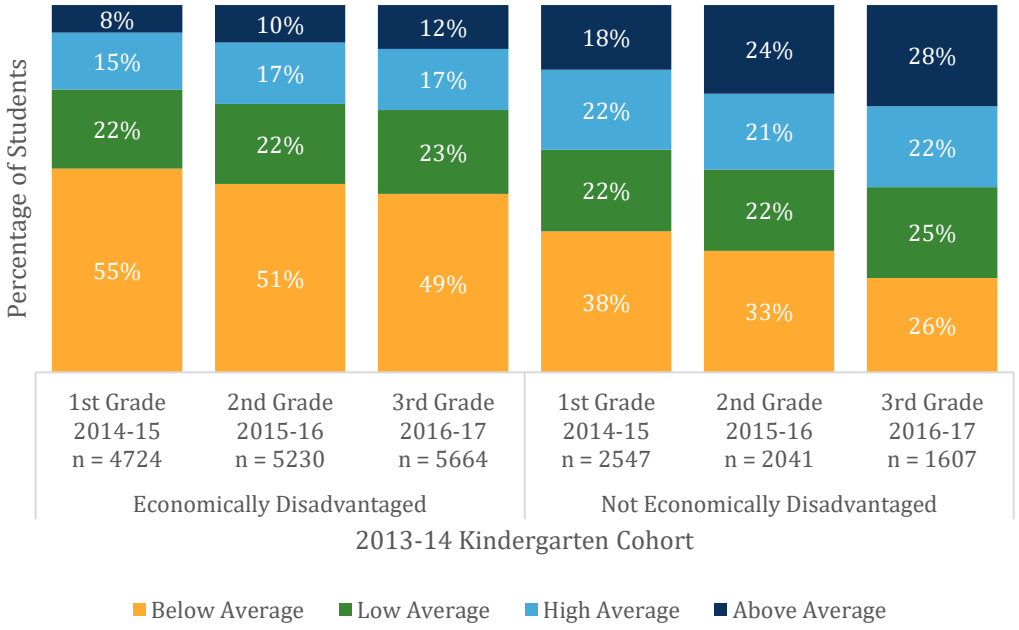
Source: Qlik Report Library Academic Screeners, accessed 1/13/2022; Qlik Report Library Enrollment Snapshots (Oct 1), accessed 1/13/2022.

For the 2013-14 Kindergarten cohort, performance for both economically disadvantaged and non-economically disadvantaged students improved from 1st to 3rd grade; however, a higher percentage of non-economically disadvantaged students moved out of the Below Average group than economically disadvantaged students, thus increasing the disparity in Below Average performance between the two groups from 17 percentage points in 1st grade to 23 percentage points in 3rd grade.

For the 2013-14 Kindergarten cohort, 49%-55% of economically disadvantaged students scored in the Below Average group from 2014-15 to 2016-17 (yellow section of stacked bars in Figure 4). In comparison, 26%-38% of non-economically disadvantaged students scored in the Below Average group from 2014-15 to 2016-17.

The percentage of economically disadvantaged students who scored in the Below Average group decreased by six points, and the percentage of non-economically disadvantaged students who scored in the Below Average group decreased by 12 points from 2014-15 to 2016-17.

Figure 4. Percentage of students in each aimsweb performance group in the 2013-14 Kindergarten cohort from 2014-15 to 2016-17 by economic disadvantage status



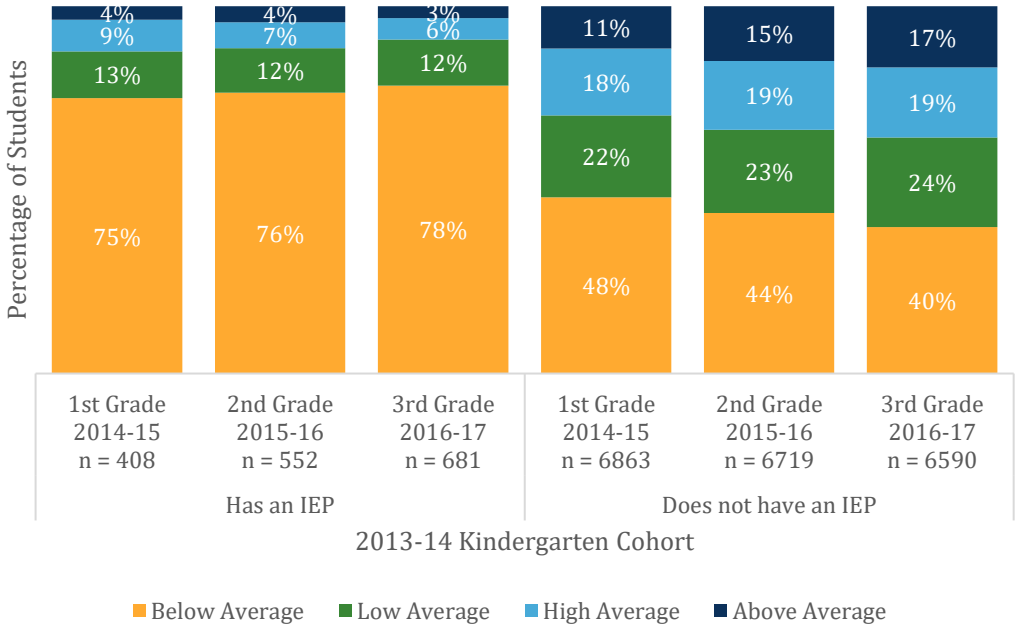
Source: Qlik Report Library Academic Screeners, accessed 1/13/2022; Qlik Report Library Enrollment Snapshots (Oct 1), accessed 1/13/2022.

For the 2013-14 Kindergarten cohort, performance for students with an IEP declined from 1st to 3rd grade, while performance for students without an IEP improved, thus increasing the disparity in Below Average performance between the two groups from 27 percentage points in 1st grade to 38 percentage points in 3rd grade.

For the 2013-14 Kindergarten cohort, 75%-78% of students with an IEP scored in the Below Average group from 2014-15 to 2016-17 (yellow section of stacked bars in Figure 5). In comparison, 40%-48% of students without an IEP scored in the Below Average group from 2014-15 to 2016-17.

The percentage of students with an IEP who scored in the Below Average group increased by three points from 1st to 3rd grade, and the percentage of students without an IEP who scored in the Below Average group decreased by eight points from 1st to 3rd grade (from 2014-15 to 2016-17).

Figure 5. Percentage of students in each aimsweb performance group in the 2013-14 Kindergarten cohort from 2014-15 to 2016-17 by special education status



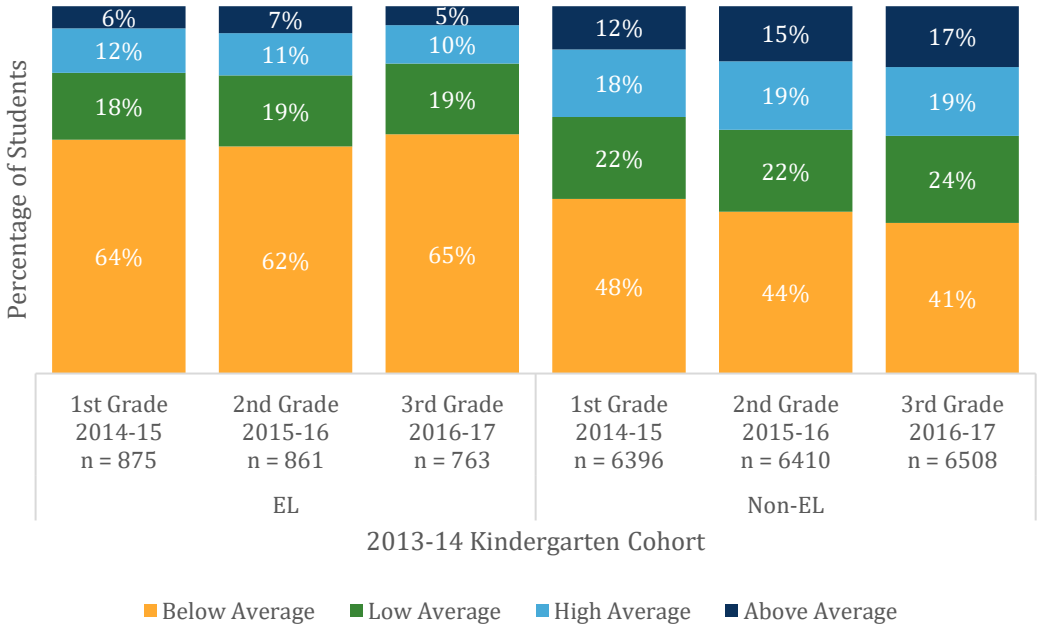
Source: Qlik Report Library Academic Screeners, accessed 1/13/2022; Qlik Report Library Enrollment Snapshots (Oct 1), accessed 1/13/2022.

For the 2013-14 Kindergarten cohort, performance for ELs declined from 1st to 3rd grade, while performance for non-ELs improved, thus increasing the disparity in Below Average performance between the two groups from 16 percentage points in 1st grade to 24 percentage points in 3rd grade.

For the 2013-14 Kindergarten cohort, 62%-65% of ELs scored in the Below Average group from 2014-15 to 2016-17 (yellow section of stacked bars in Figure 6). In comparison, 41%-48% of non-ELs scored in the Below Average group from 2014-15 to 2016-17.

The percentage of ELs who scored in the Below Average group decreased by two points from 1st to 2nd grade (2014-15 to 2015-16) and increased again by three points from 2nd to 3rd grade (2015-16 to 2016-17). In comparison, the percentage of non-ELs who scored in the Below Average group decreased by seven points from 1st to 3rd grade (from 2014-15 to 2016-17).

Figure 6. Percentage of students in each aimsweb performance group in the 2013-14 Kindergarten cohort from 2014-15 to 2016-17 by EL status



Source: Qlik Report Library Academic Screeners, accessed 1/13/2022; Qlik Report Library Enrollment Snapshots (Oct 1), accessed 1/13/2022.

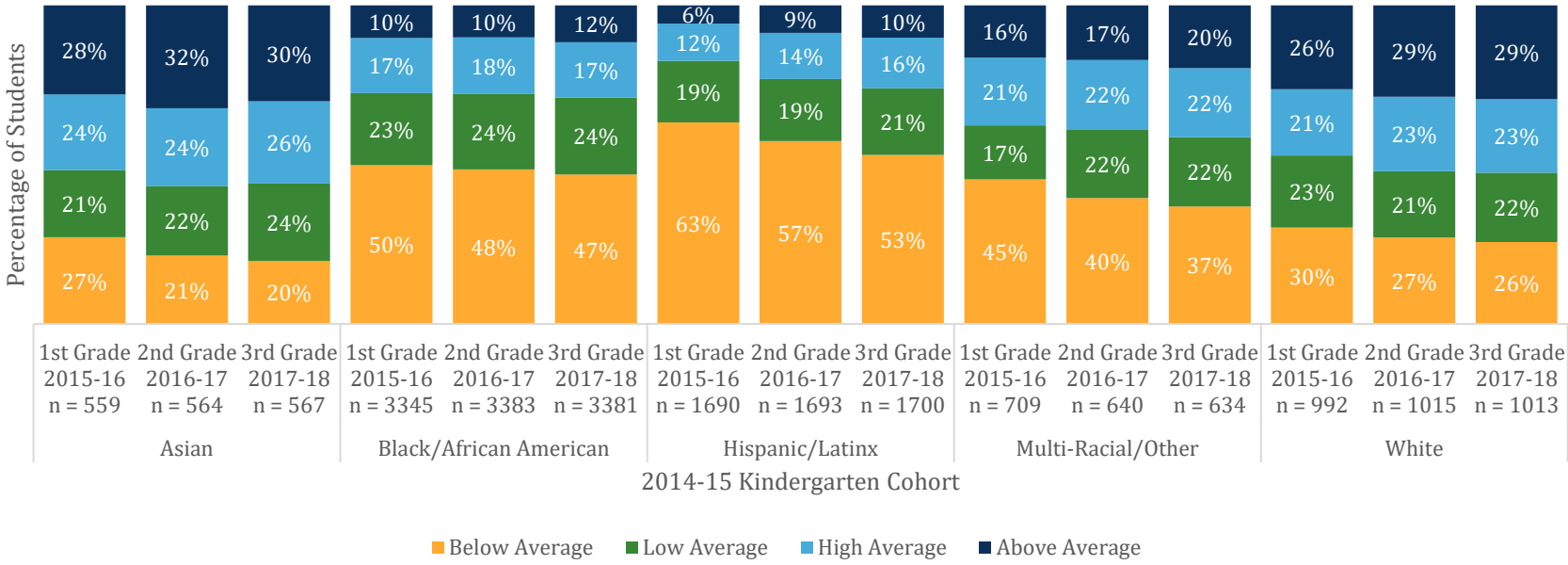
How did performance on the spring aimsweb reading assessment change for the 2014-15 Kindergarten cohort from 2015-16 (1st grade) to 2017-18 (3rd grade)? Do patterns differ by demographic groups?

For the 2014-15 Kindergarten cohort, performance for all racial/ethnic groups improved from 1st to 3rd grade, with a smaller percentage of students scoring in the Below Average group in 3rd grade.

For the 2014-15 Kindergarten cohort, 20%-27% of Asian students scored in the Below Average group from 2015-16 to 2017-18 (yellow section of stacked bars in Figure 7). In comparison, 26%-30% of White students, 37%-45% of Multi-Racial/Other students, 47%-50% of Black/African American students, and 53%-63% of Hispanic/Latinx students scored in the Below Average group from 2015-16 to 2017-18. The 2014-15 Kindergarten cohort was in 1st grade in 2015-16, 2nd grade in 2016-17, and 3rd grade in 2017-18.

The percentage of Asian students who scored in the Below Average group decreased by seven points, the percentage of Black/ African American students who scored in the Below Average group decreased by three points, the percentage of Hispanic/Latinx students who scored in the Below Average group decreased by 10 points, the percentage of Multi-Racial/Other students who scored in the Below Average group decreased by eight points, and the percentage of White students who scored in the Below Average group decreased by four points from 2015-16 to 2017-18. Another interpretation is that for this cohort, performance for all racial/ethnic groups improved from 1st to 3rd grade, with a smaller percentage of students scoring in the Below Average group in 3rd grade.

Figure 7. Percentage of students in each aimsweb performance group in the 2014-15 Kindergarten cohort from 2015-16 to 2017-18 by race/ethnicity student group



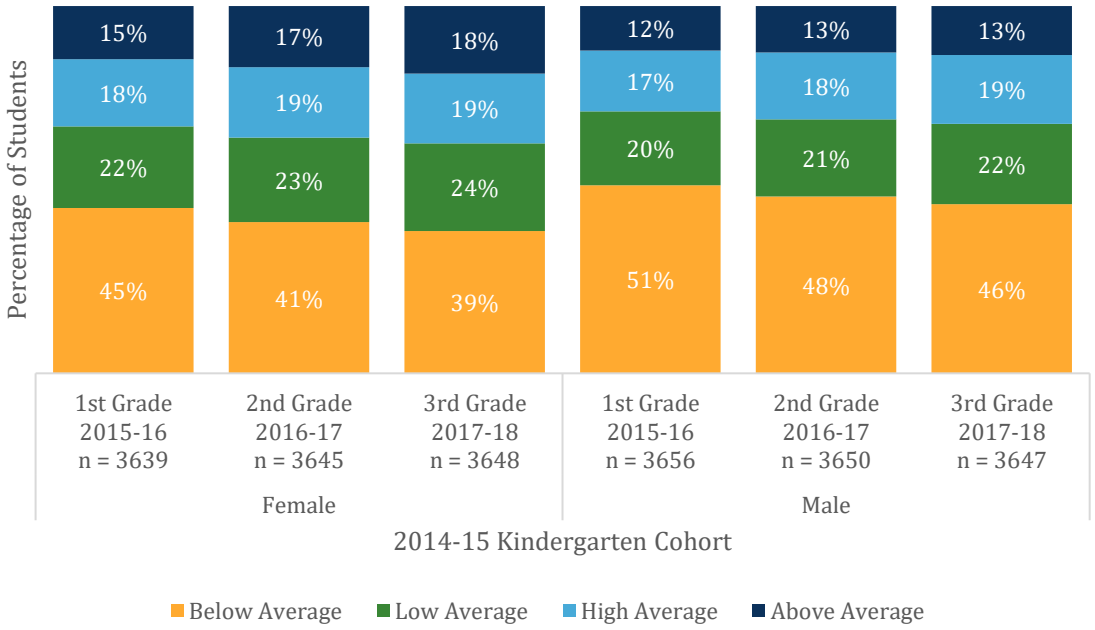
Source: Qlik Report Library Academic Screeners, accessed 1/13/2022; Qlik Report Library Enrollment Snapshots (Oct 1), accessed 1/13/2022.

For the 2014-15 Kindergarten cohort, performance for both female and male students improved from 1st to 3rd grade, with five-to-six-point decreases in the percentage of students who scored in the Below Average group in 3rd grade.

For the 2014-15 Kindergarten cohort, 39%-45% of female students scored in the Below Average group from 2015-16 to 2017-18 (yellow section of stacked bars in Figure 8). In comparison, 46%-51% of male students scored in the Below Average group from 2015-16 to 2017-18. The 2014-15 Kindergarten cohort was in 1st grade in 2015-16, 2nd grade in 2016-17, and 3rd grade in 2017-18.

The percentage of female students who scored in the Below Average group decreased by six points, and the percentage of male students who scored in the Below Average group decreased by five points from 2015-16 to 2017-18.

Figure 8. Percentage of students in each aimsweb performance group in the 2014-15 Kindergarten cohort from 2015-16 to 2017-18 by gender student group



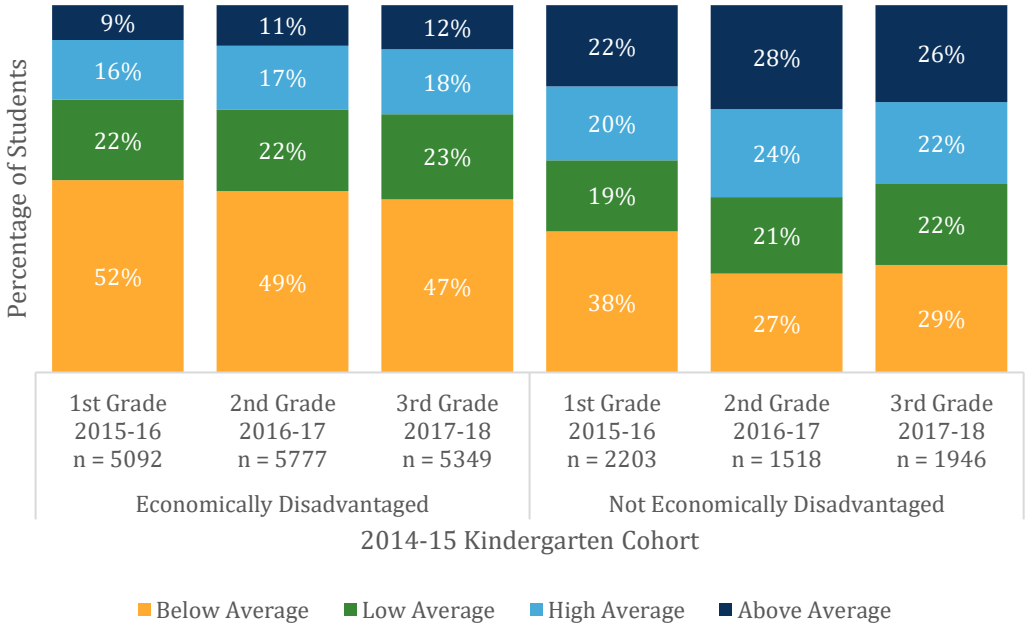
Source: Qlik Report Library Academic Screeners, accessed 1/13/2022; Qlik Report Library Enrollment Snapshots (Oct 1), accessed 1/13/2022.

For the 2014-15 Kindergarten cohort, performance for both economically disadvantaged and non-economically disadvantaged students improved from 1st to 3rd grade; however, a higher percentage of non-economically disadvantaged students moved out of the Below Average group than economically disadvantaged students, thus increasing the disparity in Below Average performance between the two groups from 14 percentage points in 1st grade to 18 percentage points in 3rd grade.

For the 2014-15 Kindergarten cohort, 47%-52% of economically disadvantaged students scored in the Below Average group from 2015-16 to 2017-18 (yellow section of stacked bars in Figure 9). In comparison, 27%-38% of non-economically disadvantaged students scored in the Below Average group from 2015-16 to 2017-18. The 2014-15 Kindergarten cohort was in 1st grade in 2015-16, 2nd grade in 2016-17, and 3rd grade in 2017-18.

The percentage of economically disadvantaged students who scored in the Below Average group decreased by five points from 2015-16 to 2017-18. In comparison, the percentage of non-economically disadvantaged students decreased by 11 points from 2015-16 to 2016-17, and then increased by two percentage points from 2016-17 to 2017-18.

Figure 9. Percentage of students in each aimsweb performance group in the 2014-15 Kindergarten cohort from 2015-16 to 2017-18 by economic disadvantage status



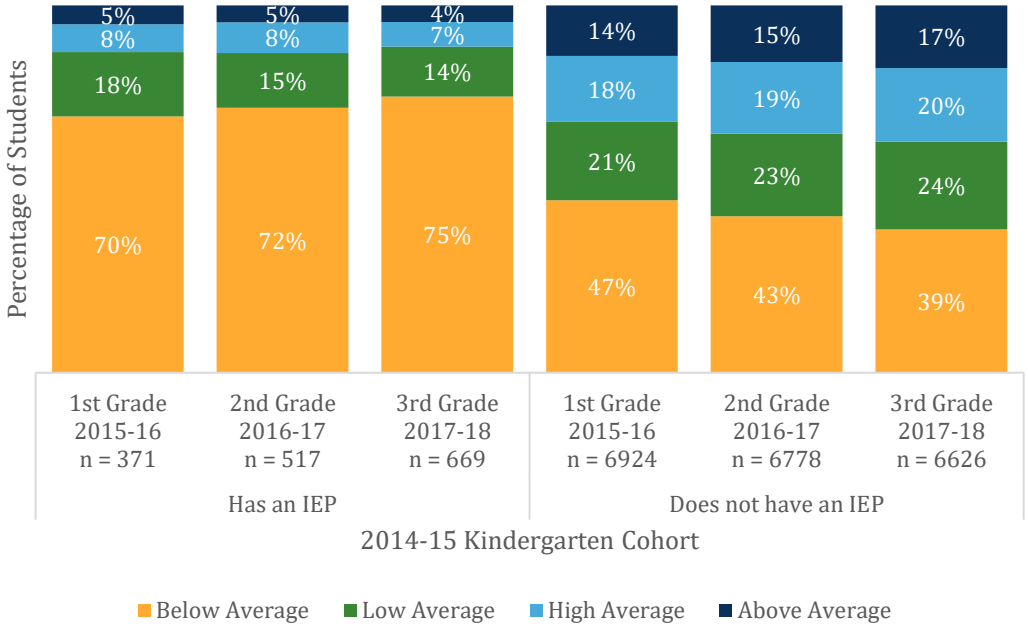
Source: Qlik Report Library Academic Screeners, accessed 1/13/2022; Qlik Report Library Enrollment Snapshots (Oct 1), accessed 1/13/2022.

For the 2014-15 Kindergarten cohort, performance for students with an IEP declined from 1st to 3rd grade, while performance for students without an IEP improved, thus increasing the disparity in Below Average performance between the two groups from 23 percentage points in 1st grade to 36 percentage points in 3rd grade.

For the 2014-15 Kindergarten cohort, 70%-75% of students with an IEP scored in the Below Average group from 2015-16 to 2017-18 (yellow section of stacked bars in Figure 10). In comparison, 39%-47% of students without an IEP scored in the Below Average group from 2015-16 to 2017-18. The 2014-15 Kindergarten cohort was in 1st grade in 2015-16, 2nd grade in 2016-17, and 3rd grade in 2017-18.

The percentage of students with an IEP who scored in the Below Average group increased by five points from 1st grade to 3rd grade (from 2015-16 to 2017-18). In comparison, the percentage of students without an IEP decreased by eight points from 1st grade to 3rd grade (from 2015-16 to 2017-18).

Figure 10. Percentage of students in each aimsweb performance group in the 2014-15 Kindergarten cohort from 2015-16 to 2017-18 by special education status



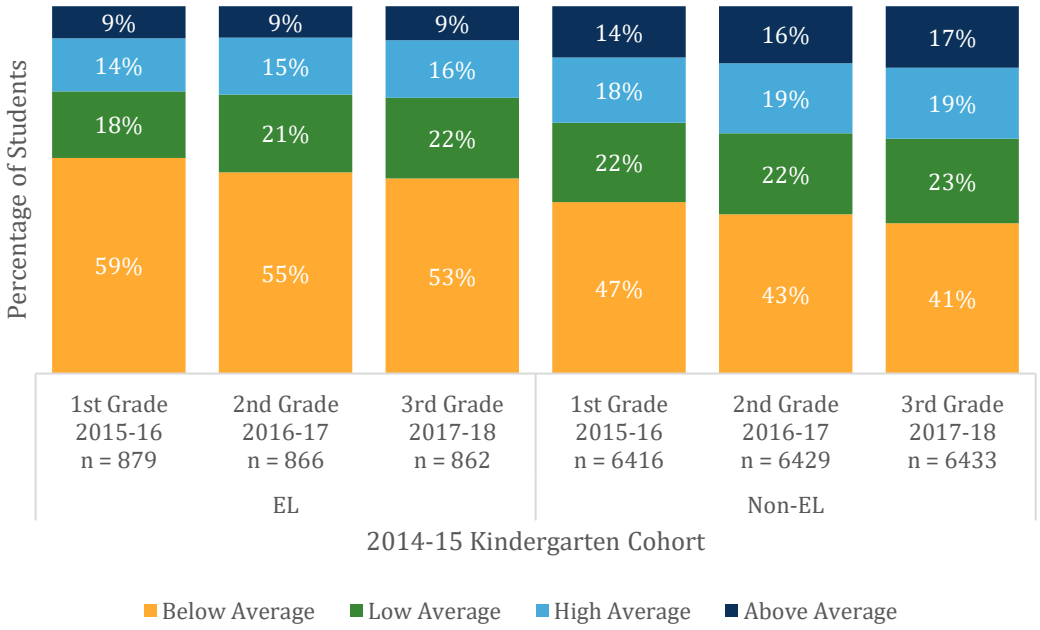
Source: Qlik Report Library Academic Screeners, accessed 1/13/2022; Qlik Report Library Enrollment Snapshots (Oct 1), accessed 1/13/2022.

For the 2014-15 Kindergarten cohort, performance for both ELs and non-ELs improved from 1st to 3rd grade, with an equal percentage of each group moving out of the Below Average group; however, the percentage of ELs scoring in the Below Average group was 12 percentage points higher than non-ELs.

For the 2014-15 Kindergarten cohort, 53%-59% of ELs scored in the Below Average group from 2015-16 to 2017-18 (yellow section of stacked bars in Figure 11). In comparison, 41%-47% of non-ELs scored in the Below Average group from 2015-16 to 2017-18. The 2014-15 Kindergarten cohort was in 1st grade in 2015-16, 2nd grade in 2016-17, and 3rd grade in 2017-18.

The percentage of ELs and non-ELs who scored in the Below Average group decreased by six points from 1st grade to 3rd grade (from 2015-16 to 2017-18).

Figure 11. Percentage of students in each aimsweb performance group in the 2014-15 Kindergarten cohort from 2015-16 to 2017-18 by EL status



Source: Qlik Report Library Academic Screeners, accessed 1/13/2022; Qlik Report Library Enrollment Snapshots (Oct 1), accessed 1/13/2022.

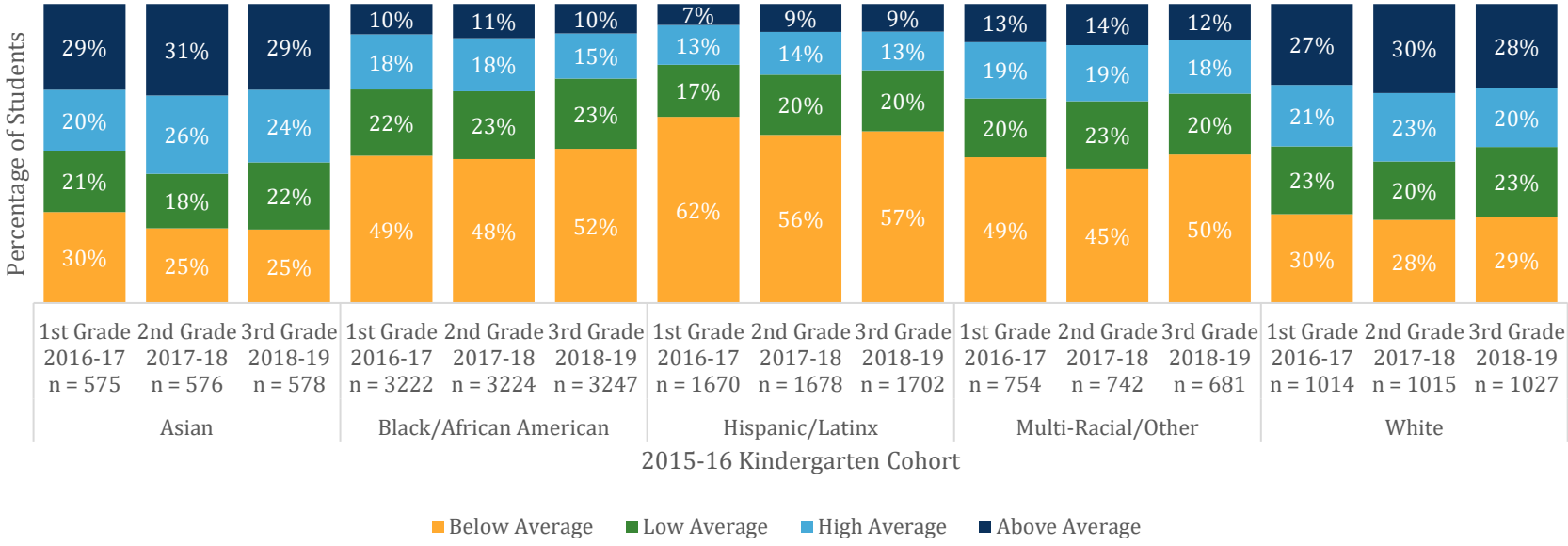
How did performance on the spring aimsweb reading assessment change for the 2015-16 Kindergarten cohort from 2016-17 (1st grade) to 2018-19 (3rd grade)? Do patterns differ by demographic groups?

For the 2015-16 Kindergarten cohort, performance for all racial/ethnic groups improved from 1st to 2nd grade, with a smaller percentage of students scoring in the Below Average group in 2nd grade; however, performance for most groups declined from 2nd to 3rd grade, with a greater percentage of students scoring in the Below Average group in 3rd grade.

For the 2015-16 Kindergarten cohort, 25%-30% of Asian students scored in the Below Average group from 2016-17 to 2018-19 (yellow section of stacked bars in Figure 12). In comparison, 28%-30% of White students, 45%-50% of Multi-Racial/Other students, 48%-52% of Black/African American students, and 56%-62% of Hispanic/Latinx students scored in the Below Average group from 2016-17 to 2018-19. The 2015-16 Kindergarten cohort was in 1st grade in 2016-17, 2nd grade in 2017-18, and 3rd grade in 2018-19.

The percentage of Asian students who scored in the Below Average group decreased by five points, the percentage of Hispanic/Latinx students who scored in the Below Average group decreased by five points, and the percentage of White students who scored in the Below Average group decreased by one point from 2016-17 to 2018-19. In comparison, the percentage of Black/African American students who scored in the Below Average group increased by three points, and the percentage of Multi-Racial/Other students who scored in the Below Average group increased by one point from 2016-17 to 2018-19. The percentage of Black/African American students, Hispanic/Latinx students, Multi-Racial/Other students, and White students who scored in the Below Average group decreased from 1st grade to 2nd grade, and then increased from 2nd grade to 3rd grade.

Figure 12. Percentage of students in each aimsweb performance group in the 2015-16 Kindergarten cohort from 2016-17 to 2018-19 by race/ethnicity student group



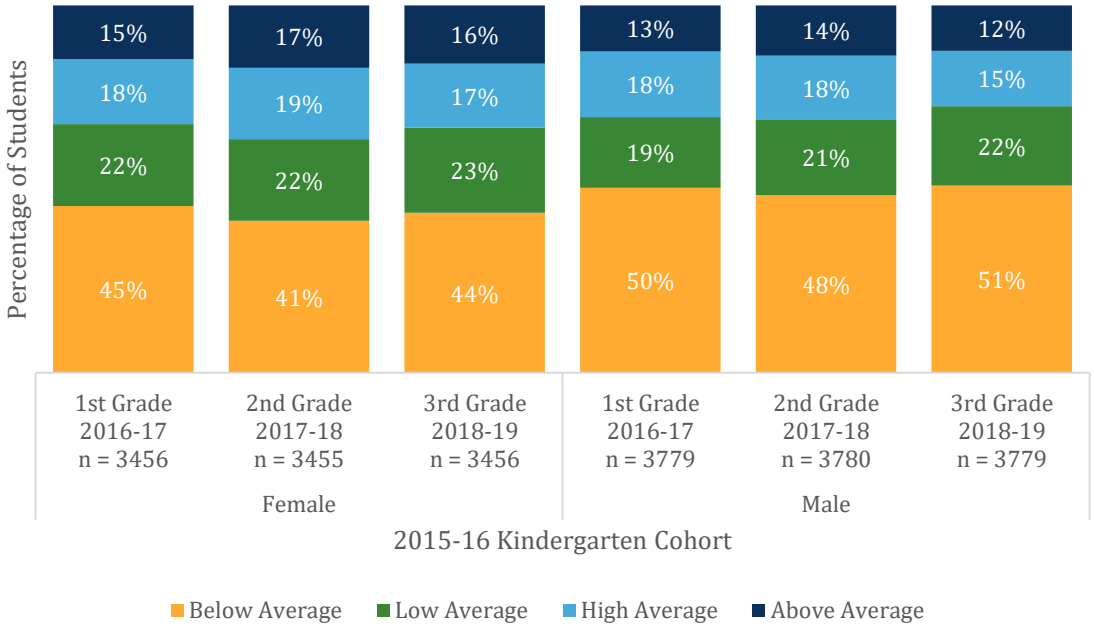
Source: Qlik Report Library Academic Screeners, accessed 1/13/2022; Qlik Report Library Enrollment Snapshots (Oct 1), accessed 1/13/2022.

For the 2015-16 Kindergarten cohort, performance for female students improved from 1st to 3rd grade, with a one-point decrease in the percentage of students scoring in the Below Average group in 3rd grade, while performance for male students declined, with a one-point increase in the percentage of students scoring in the Below Average group.

For the 2015-16 Kindergarten cohort, 41%-45% of female students scored in the Below Average group from 2016-17 to 2018-19 (yellow section of stacked bars in Figure 13). In comparison, 48%-51% of male students scored in the Below Average group from 2016-17 to 2018-19. The 2015-16 Kindergarten cohort was in 1st grade in 2016-17, 2nd grade in 2017-18, and 3rd grade in 2018-19.

The percentage of female students who scored in the Below Average group decreased by one point and the percentage of male students who scored in the Below Average group increased by one point from 2016-17 to 2018-19. The percentage of female students who scored in the Below Average group decreased from 1st grade to 2nd grade and then increased from 2nd grade to 3rd grade, although the percentage in 3rd grade was not higher than the percentage in 1st grade. The percentage of male students who scored in the Below Average group decreased from 1st grade to 2nd grade and increased from 2nd grade to 3rd grade, and the percentage in 3rd grade was higher than the percentage in 1st grade.

Figure 13. Percentage of students in each aimsweb performance group in the 2015-16 Kindergarten cohort from 2016-17 to 2018-19 by gender student group



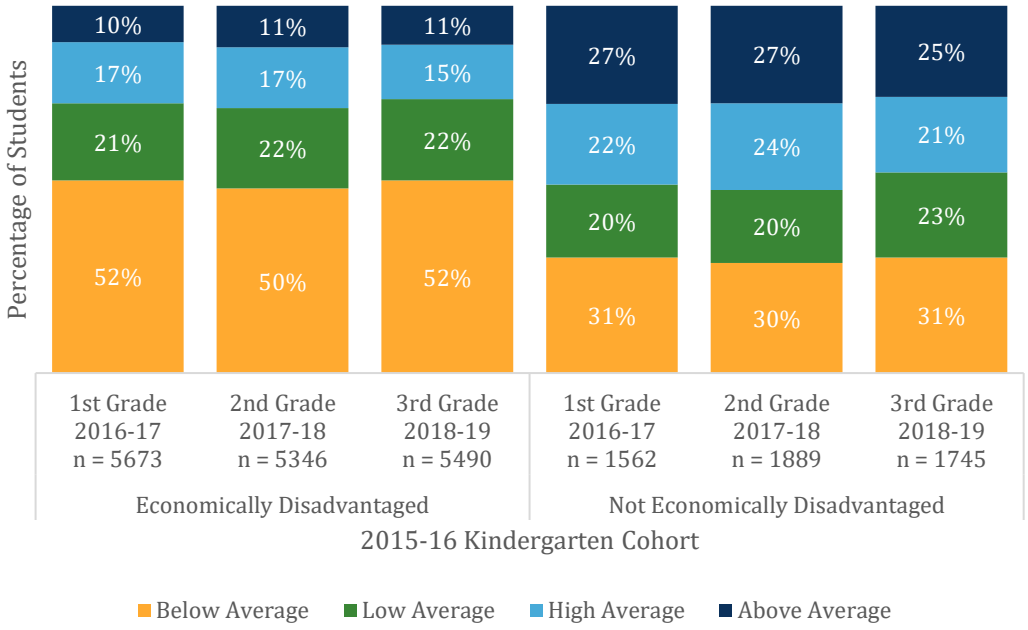
Source: Qlik Report Library Academic Screeners, accessed 1/13/2022; Qlik Report Library Enrollment Snapshots (Oct 1), accessed 1/13/2022.

For the 2015-16 Kindergarten cohort, performance for both economically disadvantaged and non-economically disadvantaged students saw no change from 1st to 3rd grade; however, the percentage of economically disadvantaged students scoring in the Below Average group was 20 to 21 percentage points higher than non-economically disadvantaged students.

For the 2015-16 Kindergarten cohort, 50%-52% of economically disadvantaged students scored in the Below Average group from 2016-17 to 2018-19 (yellow section of stacked bars in Figure 14). In comparison, 30%-31% of non-economically disadvantaged students scored in the Below Average group from 2016-17 to 2018-19. The 2015-16 Kindergarten cohort was in 1st grade in 2016-17, 2nd grade in 2017-18, and 3rd grade in 2018-19.

The percentage of economically disadvantaged students and non-economically disadvantaged students who scored in the Below Average group did not change from 2016-17 to 2018-19. Notably, in both populations, the percentage of students who scored in the Below Average group decreased from 1st grade to 2nd grade and then increased from 2nd grade to 3rd grade.

Figure 14. Percentage of students in each aimsweb performance group in the 2015-16 Kindergarten cohort from 2016-17 to 2018-19 by economic disadvantaged status



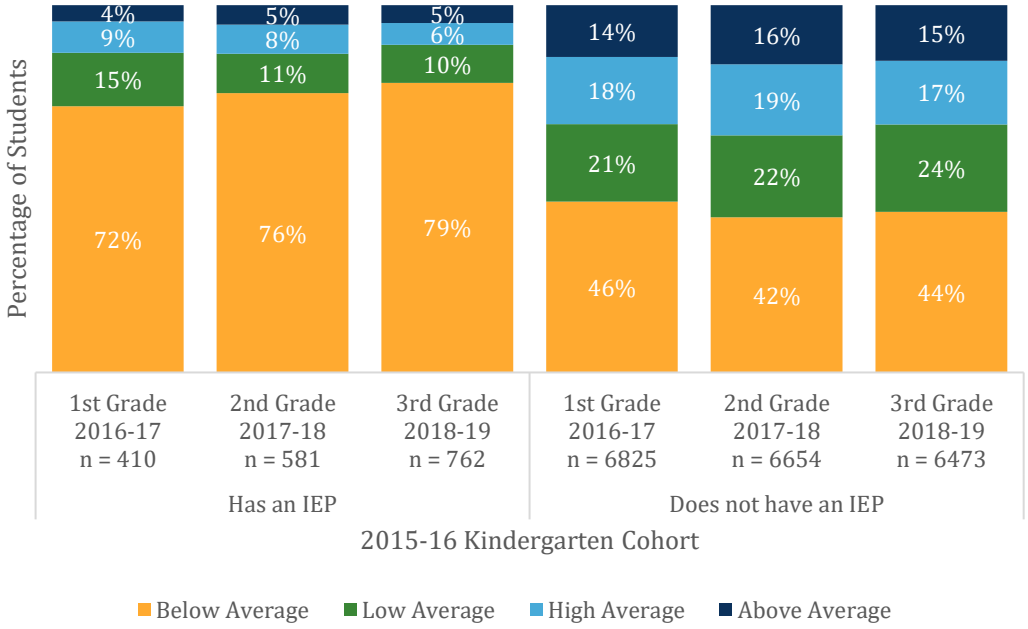
Source: Qlik Report Library Academic Screeners, accessed 1/13/2022; Qlik Report Library Enrollment Snapshots (Oct 1), accessed 1/13/2022.

For the 2015-16 Kindergarten cohort, performance for students with an IEP declined from 1st to 3rd grade, while performance for students without an IEP improved, thus increasing the disparity in Below Average performance between the two groups from 26 percentage points in 1st grade to 35 percentage points in 3rd grade.

For the 2015-16 Kindergarten cohort, 72%-79% of students with an IEP scored in the Below Average group from 2016-17 to 2018-19 (yellow section of stacked bars in Figure 15). In comparison, 42%-46% of students without an IEP scored in the Below Average group from 2016-17 to 2018-19. The 2015-16 Kindergarten cohort was in 1st grade in 2016-17, 2nd grade in 2017-18, and 3rd grade in 2018-19.

The percentage of students with an IEP who scored in the Below Average group increased by seven points from 1st grade to 3rd grade (from 2016-17 to 2018-19). In comparison, the percentage of students without an IEP who scored in the Below Average group decreased from 1st grade to 2nd grade and then increased from 2nd grade to 3rd grade.

Figure 15. Percentage of students in each aimsweb performance group in the 2015-16 Kindergarten cohort from 2016-17 to 2018-19 by special education status



Source: Qlik Report Library Academic Screeners, accessed 1/13/2022; Qlik Report Library Enrollment Snapshots (Oct 1), accessed 1/13/2022.

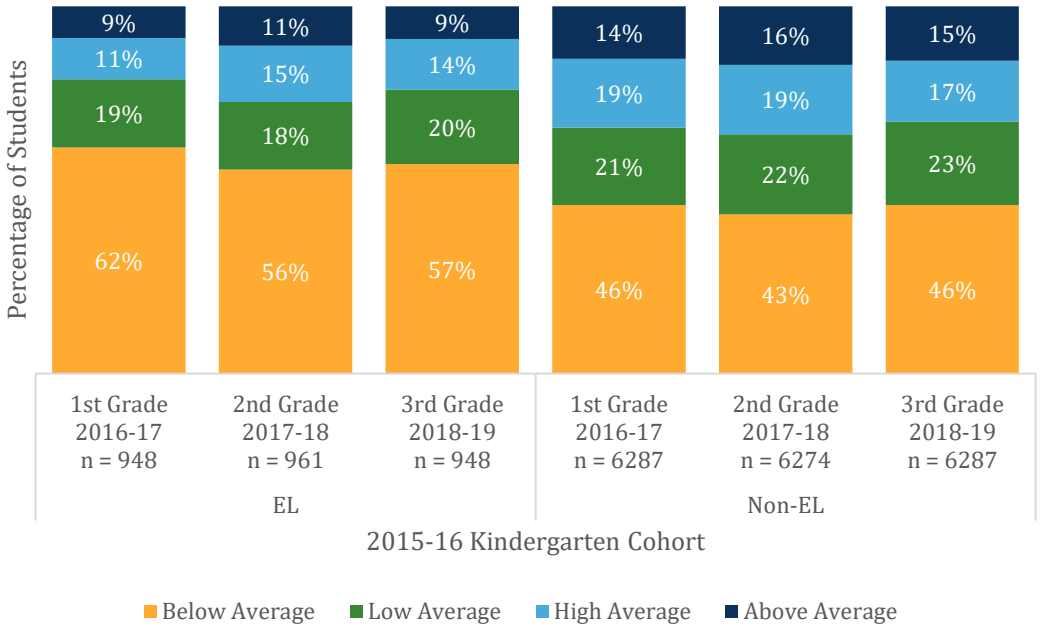
For the 2015-16 Kindergarten cohort, performance for ELs improved from 1st to 3rd grade while performance for non-ELs remained consistent, thus decreasing the disparity in Below Average performance between the two groups from 16 percentage points in 1st grade to 11 percentage points in 3rd grade.

For the 2015-16 Kindergarten cohort, 56%-62% of ELs scored in the Below Average group from 2016-17 to 2018-19 (Figure 16). In comparison, 43%-46% of non-ELs scored in the Below Average group from 2016-17 to 2018-19. The 2015-16 Kindergarten cohort was in 1st grade in 2016-17, 2nd grade in 2017-18, and 3rd grade in 2018-19.

The percentage of ELs who scored in the Below Average group deceased by six points from 1st grade to 2nd grade and then increased by one point from 2nd grade to 3rd grade (2017-18 to 2018-19). In comparison, the percentage of non-ELs who scored in the Below Average group decreased

by three points from 1st grade to 2nd grade and then increased by three points from 2nd grade to 3rd grade.

Figure 16. Percentage of students in each aimsweb performance group in the 2015-16 Kindergarten cohort from 2016-17 to 2018-19 by EL status



Source: Qlik Report Library Academic Screeners, accessed 1/13/2022; Qlik Report Library Enrollment Snapshots (Oct 1), accessed 1/13/2022.

Cross-Sectional Analyses Findings

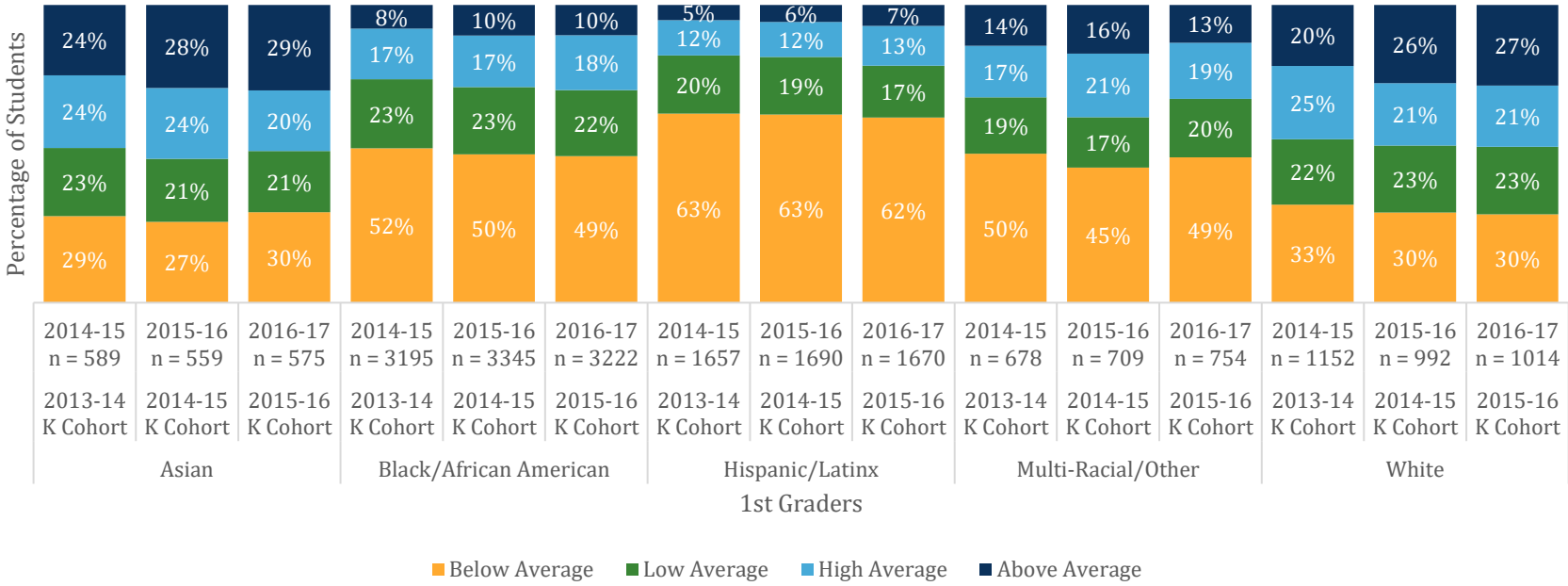
How did performance on the spring aimsweb reading assessment differ for 1st graders in 2014-15, 2015-16, and 2016-17? Do patterns differ by demographic groups?

Across the three Kindergarten cohorts, 1st grade performance for nearly all racial/ethnic groups improved from 2014-15 to 2016-17, with a smaller percentage of students scoring in the Below Average group in 2016-17.

For 1st graders across the three Kindergarten cohorts, 27%-30% of Asian and 30%-33% of White students scored in the Below Average group from 2014-15 to 2016-17 (yellow section of stacked bars in Figure 17). In comparison, 45%-50% of Multi-Racial/Other students, 49%-52% of Black/African American students, and 62%-63% of Hispanic/Latinx students scored in the Below Average group from 2014-15 to 2016-17.

The percentage of Asian students who scored in the Below Average group increased by one point and the percentage of Multi-Racial/Other students who scored in the Below Average group decreased by one point from 2014-15 to 2016-17. The percentage of Black/ African American students who scored in the Below Average group decreased by three points, the percentage of Hispanic/Latinx students who scored in the Below Average group decreased by one point, and the percentage of White students who scored in the Below Average group decreased by three points from 2014-15 to 2016-17. Another interpretation is that the percentage of Asian students and Multi-Racial/Other students who scored in the Below Average group decreased from the 2013-14 Kindergarten cohort to the 2014-15 Kindergarten cohort, and then increased from the 2014-15 Kindergarten cohort to the 2015-16 Kindergarten cohort.

Figure 17. Percentage of 1st graders in each aimsweb performance group from 2014-15 to 2016-17 by race/ethnicity student group



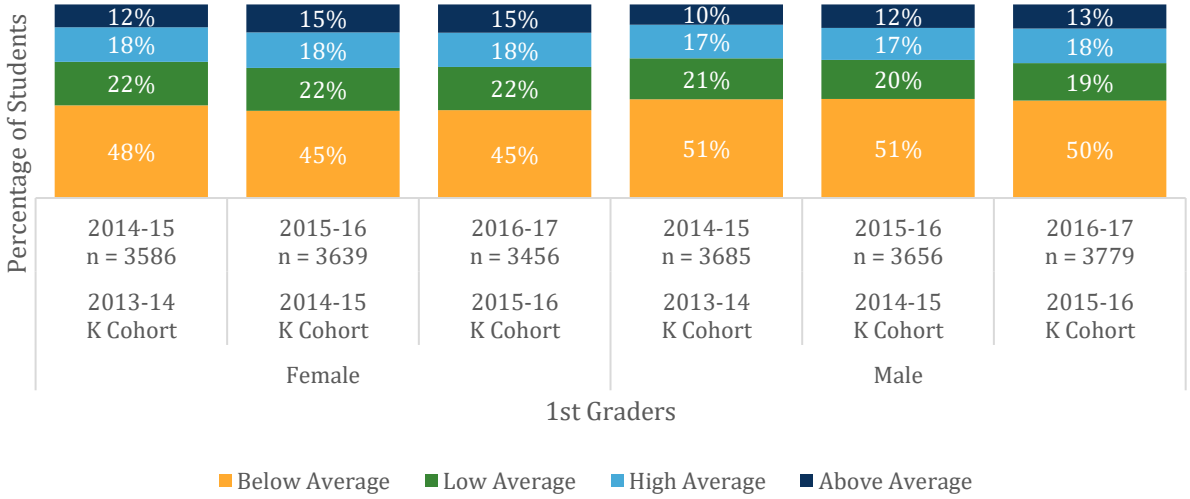
Source: Qlik Report Library Academic Screeners, accessed 1/13/2022; Qlik Report Library Enrollment Snapshots (Oct 1), accessed 1/13/2022.

Across the three Kindergarten cohorts, 1st grade performance for both female and male students improved from 2014-15 to 2016-17, with a three-point decrease in the percentage of female students scoring in the Below Average group and a one-point decrease for male students.

For 1st graders across the three Kindergarten cohorts, 45%-48% of female students scored in the Below Average group from 2014-15 to 2016-17 (yellow section of stacked bars in Figure 18). In comparison, 50%-51% of male students scored in the Below Average group from 2014-15 to 2016-17.

The percentage of female students who scored in the Below Average group decreased by three points, and the percentage of male students who scored in the Below Average group decreased by one point from 2014-15 to 2016-17. Overall, the percentage of male and female students who scored in the Below Average group decreased from the 2013-14 Kindergarten cohort to the 2015-16 Kindergarten cohort.

Figure 18. Percentage of 1st graders in each aimsweb performance group from 2014-15 to 2016-17 by gender student group



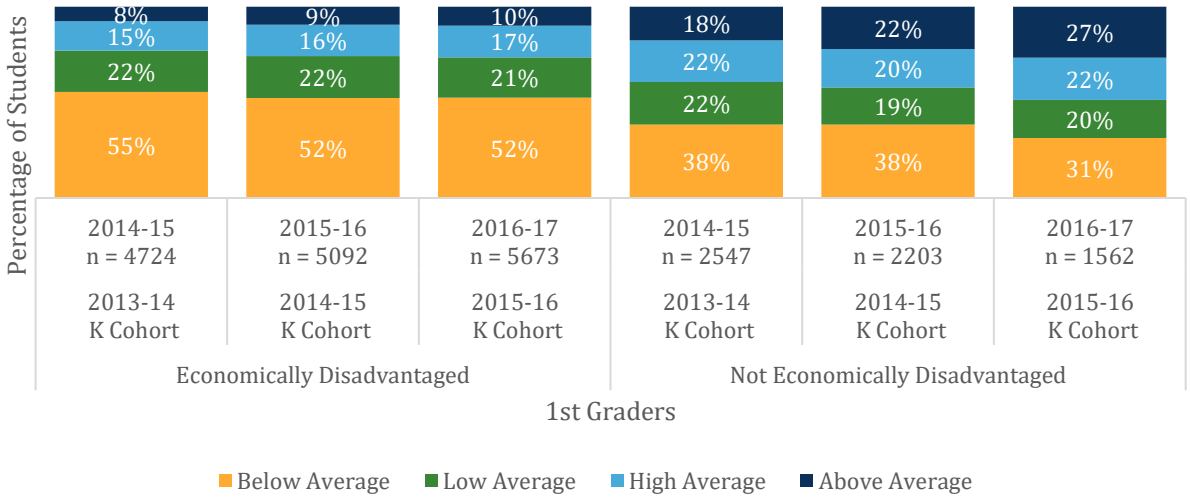
Source: Qlik Report Library Academic Screeners, accessed 1/13/2022; Qlik Report Library Enrollment Snapshots (Oct 1), accessed 1/13/2022.

Across the three Kindergarten cohorts, 1st grade performance for both economically disadvantaged and non-economically disadvantaged students improved from 2014-15 to 2016-17; however, the percent decrease in the Below Average group was greater for non-economically disadvantaged students than economically disadvantaged students, thus increasing the disparity in Below Average performance between the two groups from 17 percentage points in 2014-15 to 21 percentage points in 2016-17.

For 1st graders across the three Kindergarten cohorts, 52%-55% of economically disadvantaged students scored in the Below Average group from 2014-15 to 2016-17 (yellow section of stacked bars in Figure 19). In comparison, 31%-38% of non-economically disadvantaged students scored in the Below Average group from 2014-15 to 2016-17.

The percentage of economically disadvantaged students who scored in the Below Average group decreased by three points and the percentage of non-economically disadvantaged students who scored in the Below Average group decreased by seven points from 2014-15 to 2016-17. Overall, the percentage of economically disadvantaged and non-economically disadvantaged students who scored in the Below Average group decreased from the 2013-14 Kindergarten cohort to the 2015-16 Kindergarten cohort.

Figure 19. Percentage of 1st graders in each aimsweb performance group from 2014-15 to 2016-17 by economic disadvantage status



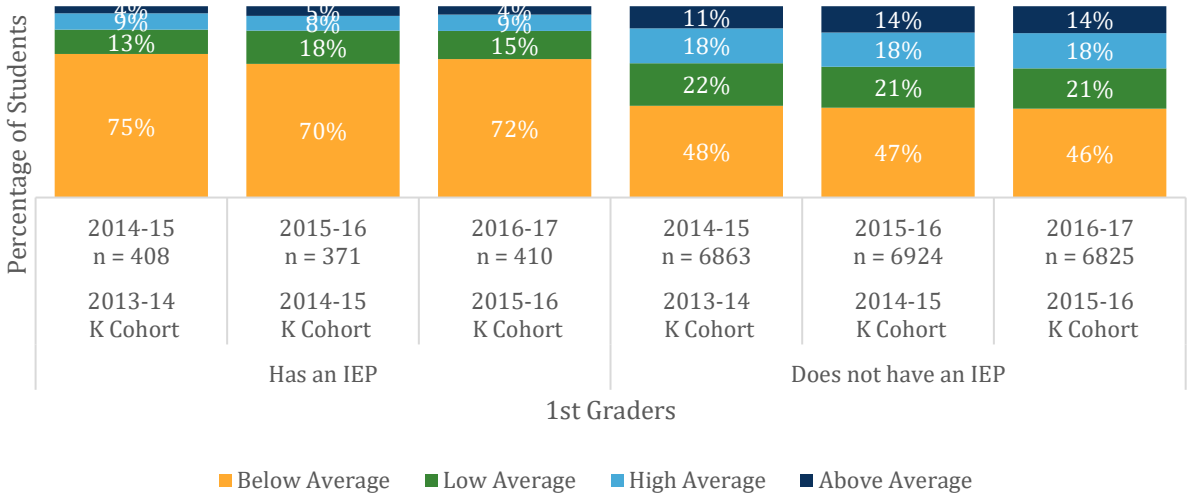
Source: Qlik Report Library Academic Screeners, accessed 1/13/2022; Qlik Report Library Enrollment Snapshots (Oct 1), accessed 1/13/2022.

Across the three Kindergarten cohorts, 1st grade performance for both students with an IEP and students without an IEP improved from 2014-15 to 2016-17; however, the percentage of students with an IEP scoring in the Below Average group was 23 to 27 percentage points higher than students without an IEP.

For 1st graders across the three Kindergarten cohorts, 70%-75% of students with an IEP scored in the Below Average group from 2014-15 to 2016-17 (yellow section of stacked bars in Figure 20). In comparison, 46%-48% of students without an IEP scored in the Below Average group from 2014-15 to 2016-17.

The percentage of students with an IEP who scored in the Below Average group decreased by five points from the 2013-14 Kindergarten cohort to the 2014-15 Kindergarten cohort, and then increased by two points from the 2014-15 Kindergarten cohort to the 2015-16 Kindergarten cohort. The percentage of students without an IEP who scored in the Below Average group decreased by two points from 2014-15 to 2016-17.

Figure 20. Percentage of 1st graders in each aimsweb performance group from 2014-15 to 2016-17 by special education status



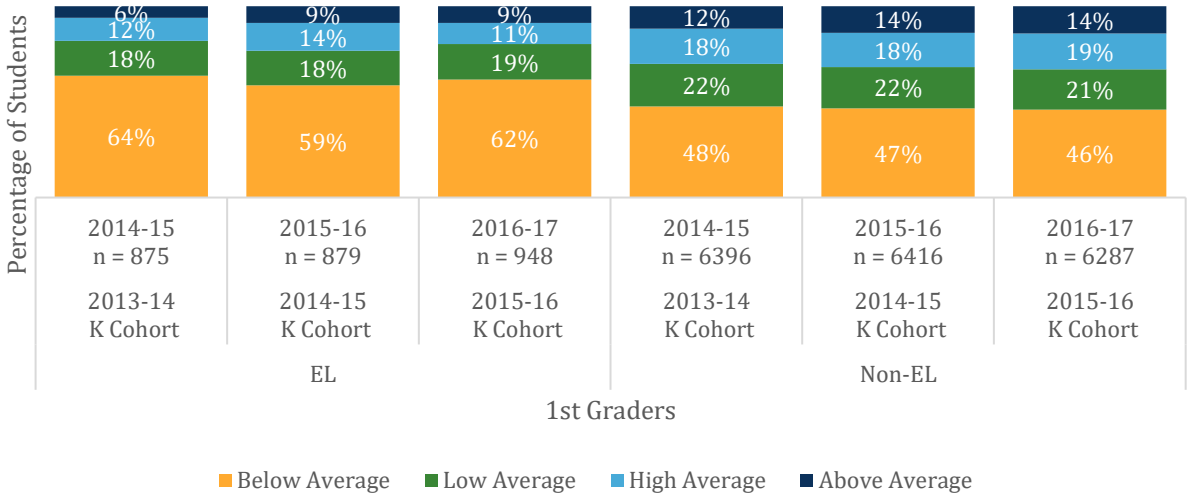
Source: Qlik Report Library Academic Screeners, accessed 1/13/2022; Qlik Report Library Enrollment Snapshots (Oct 1), accessed 1/13/2022.

Across the three Kindergarten cohorts, 1st grade performance for both ELs and non-ELs improved from 2014-15 to 2016-17; however, the percentage of ELs scoring in the Below Average group was 16 percentage points higher than non-ELs.

For 1st graders across the three Kindergarten cohorts, 59%-64% of ELs scored in the Below Average group from 2014-15 to 2016-17 (yellow section of stacked bars in Figure 21). In comparison, 46%-48% of ELs scored in the Below Average group from 2014-15 to 2016-17.

The percentage of ELs who scored in the Below Average group decreased by five points from 2014-15 to 2015-16, and then increased by three points from 2015-16 to 2016-17. The percentage of students without an IEP who scored in the Below Average group decreased by two points from 2014-15 to 2016-17.

Figure 21. Percentage of 1st graders in each aimsweb performance group from 2014-15 to 2016-17 by EL status



Source: Qlik Report Library Academic Screeners, accessed 1/13/2022; Qlik Report Library Enrollment Snapshots (Oct 1), accessed 1/13/2022.

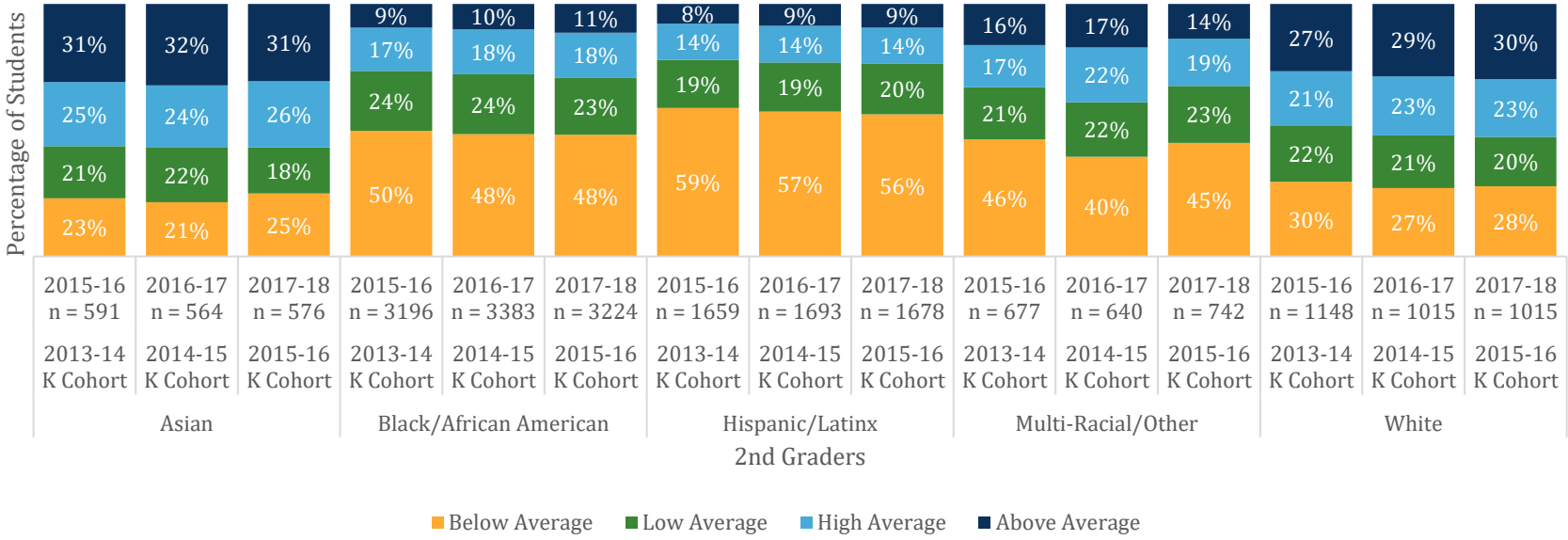
How did performance on the spring aimsweb reading assessment differ for 2nd graders in 2015-16, 2016-17, and 2017-18? Do patterns differ by demographic groups?

Across the three Kindergarten cohorts, 2nd grade performance for Asian students, Multi-Racial/Other students, and White students improved from 2015-16 to 2016-17, with a smaller percentage of students scoring in the Below Average group; however, 2nd grade performance then declined from 2016-17 to 2017-18, with a greater percentage of students scoring in the Below Average group.

For 2nd graders across the three Kindergarten cohorts, 21%-25% of Asian students scored in the Below Average group from 2015-16 to 2017-18 (yellow section of stacked bars in Figure 22). In comparison, 27%-30% of White students, 40%-46% of Multi-Racial/Other students, 48%-50% of Black/African American students, and 56%-59% of Hispanic/Latinx students scored in the Below Average group from 2015-16 to 2017-18.

The percentage of Asian students who scored in the Below Average group increased by two points from 2015-16 to 2017-18. The percentage of Black/African American students who scored in the Below Average group decreased by two points, the percentage of Hispanic/Latinx students who scored in the Below Average group decreased by three points, the percentage of Multi-Racial/Other students who scored in the Below Average group decreased by one point, and the percentage of White students who scored in the Below Average group decreased by two points from 2015-16 to 2017-18. Another interpretation is that the percentage of Asian students, Multi-Racial/Other students, and White students who scored in the Below Average group decreased from the 2013-14 Kindergarten cohort to the 2014-15 Kindergarten cohort, and then increased from the 2014-15 Kindergarten cohort to the 2015-16 Kindergarten cohort. The percentage of Black/African American students and Hispanic/Latinx students who scored in the Below Average group decreased from the 2013-14 Kindergarten cohort to the 2015-16 Kindergarten cohort.

Figure 22. Percentage of 2nd graders in each aimsweb performance group from 2015-16 to 2017-18 by race/ethnicity student group



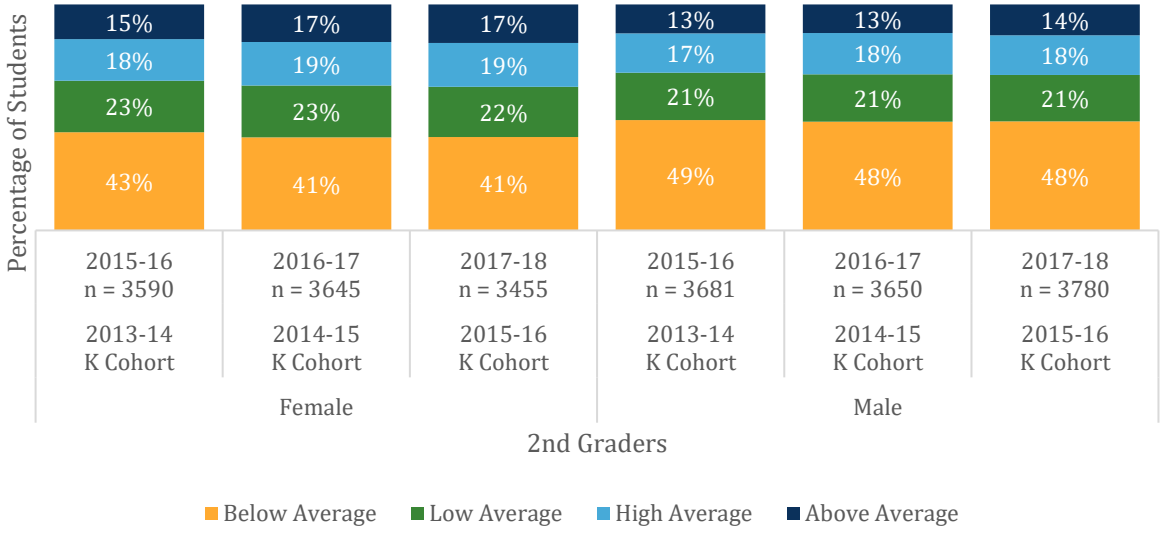
Source: Qlik Report Library Academic Screeners, accessed 1/13/2022; Qlik Report Library Enrollment Snapshots (Oct 1), accessed 1/13/2022.

Across the three Kindergarten cohorts, 2nd grade performance for both female and male students improved from 2015-16 to 2017-18, with a two-point decrease in the percentage of female students scoring in the Below Average group and a one-point decrease for male students.

For 2nd graders across the three Kindergarten cohorts, 41%-43% of female students scored in the Below Average group from 2015-16 to 2017-18 (yellow section of stacked bars in Figure 23). In comparison, 48%-49% of male students scored in the Below Average group from 2015-16 to 2017-18.

The percentage of female students who scored in the Below Average group decreased by two points and the percentage of male students who scored in the Below Average group decreased by one point from the 2013-14 Kindergarten cohort to the 2014-15 Kindergarten cohort. The percentage of female and male students who scored in the Below Average group decreased from the 2013-14 Kindergarten cohort to the 2015-16 Kindergarten cohort.

Figure 23. Percentage of 2nd graders in each aimsweb performance group from 2015-16 to 2017-18 by gender student group



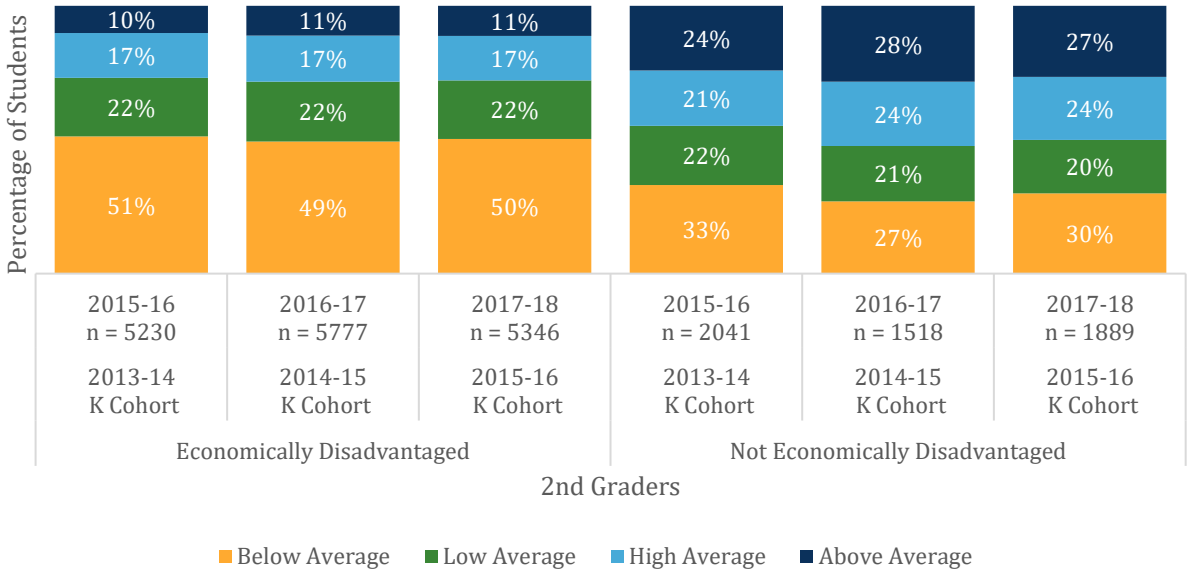
Source: Qlik Report Library Academic Screeners, accessed 1/13/2022; Qlik Report Library Enrollment Snapshots (Oct 1), accessed 1/13/2022.

Across the three Kindergarten cohorts, 2nd grade performance for both economically disadvantaged and non-economically disadvantaged students improved from 2015-16 to 2017-18; however, the percent decrease in the Below Average group was greater for non-economically disadvantaged students than economically disadvantaged students, thus increasing the disparity in Below Average performance between the two groups from 18 percentage points in 2015-16 to 20 percentage points in 2017-18.

For 2nd graders across the three Kindergarten cohorts, 49%-51% of economically disadvantaged students scored in the Below Average group from the 2013-14 to the 2015-16 Kindergarten cohort (yellow section of stacked bars in Figure 24). In comparison, 27%-33% of non-economically disadvantaged students scored in the Below Average group from the 2013-14 Kindergarten cohort to the 2015-16 Kindergarten cohort.

The percentage of economically disadvantaged students who scored in the Below Average group decreased by one point, and the percentage of non-economically disadvantaged students who scored in the Below Average group decreased by three points from the 2013-14 Kindergarten cohort to the 2015-16 Kindergarten cohort. The percentage of economically disadvantaged and non-economically disadvantaged students who scored in the Below Average group decreased from the 2013-14 Kindergarten cohort to the 2014-15 Kindergarten cohort and increased in the 2015-16 cohort.

Figure 24. Percentage of 2nd graders in each aimsweb performance group from 2015-16 to 2017-18 by economic disadvantage status



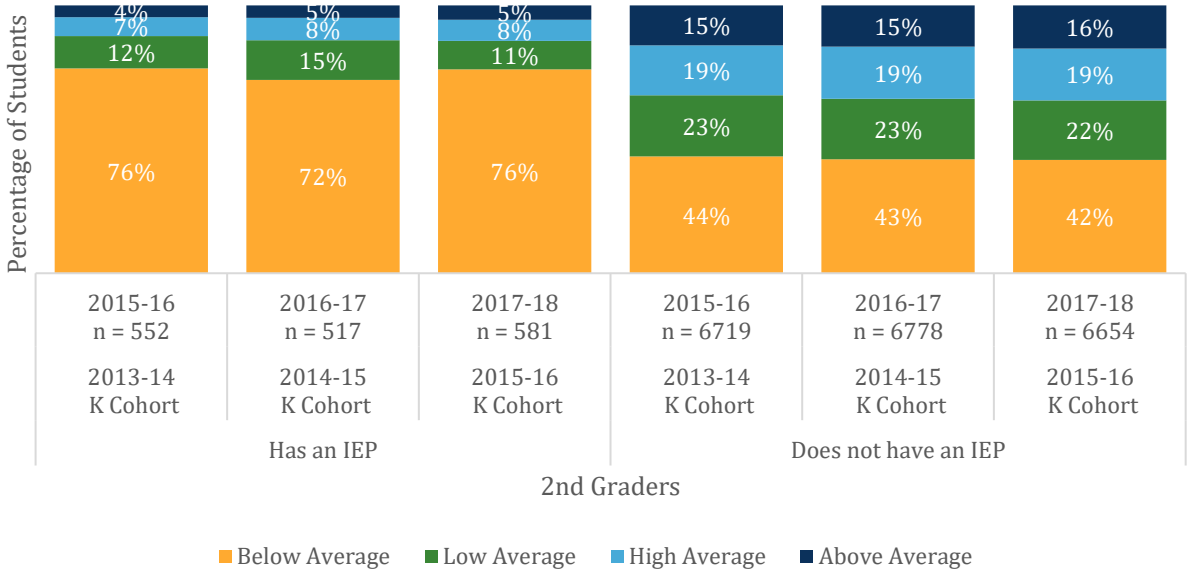
Source: Qlik Report Library Academic Screeners, accessed 1/13/2022; Qlik Report Library Enrollment Snapshots (Oct 1), accessed 1/13/2022.

Across the three Kindergarten cohorts, 2nd grade performance for students with an IEP did not change from 2015-16 to 2017-18, while performance for students without an IEP improved, thus increasing the disparity in Below Average performance between the two groups from 32 percentage points in 2015-16 to 34 percentage points in 2017-18.

For 2nd graders across the three Kindergarten cohorts, 72%-76% of students with an IEP scored in the Below Average group from 2015-16 to 2017-18 (yellow section of stacked bars in Figure 25). In comparison, 42%-44% of students without an IEP scored in the Below Average group from 2015-16 to 2017-18.

The percentage of students with an IEP who scored in the Below Average group decreased by four points from 2015-16 to 2016-17 and increased by four points from 2016-17 to 2017-18. The percentage of students without an IEP who scored in the Below Average group decreased by two points from 2015-16 to 2017-18.

Figure 25. Percentage of 2nd graders in each aimsweb performance group from 2015-16 to 2017-18 by special education status



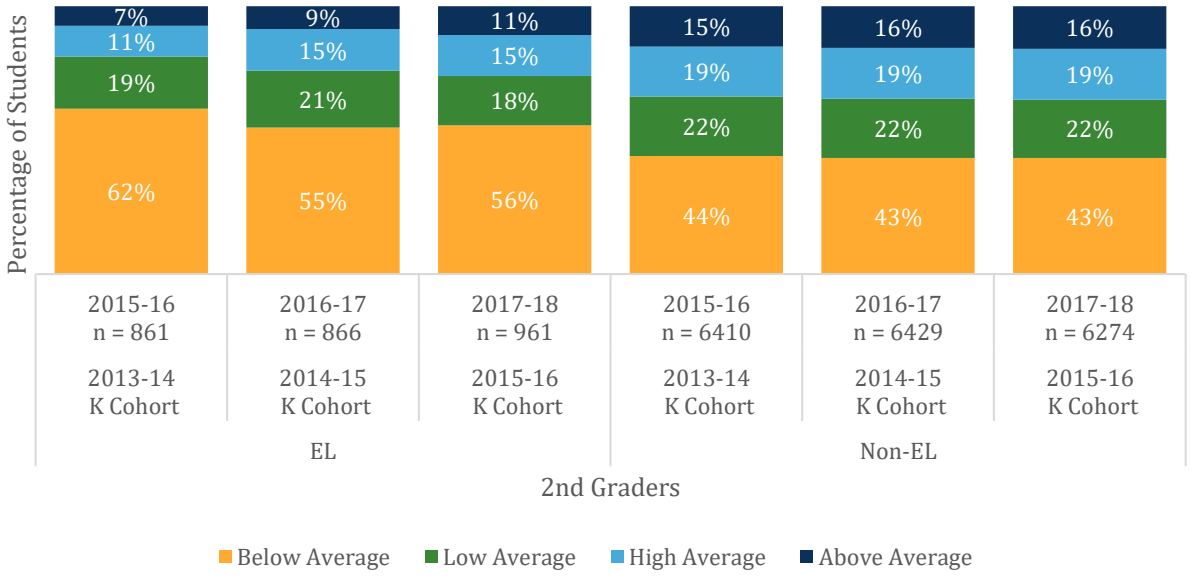
Source: Qlik Report Library Academic Screeners, accessed 1/13/2022; Qlik Report Library Enrollment Snapshots (Oct 1), accessed 1/13/2022.

Across the three Kindergarten cohorts, 2nd grade performance for both ELs and non-ELs improved from 2015-16 to 2017-18; however, the percent decrease in the Below Average group was greater for ELs than non-ELs, thus decreasing the disparity in Below Average performance between the two groups from 18 percentage points in 2015-16 to 13 percentage points in 2017-18.

For 2nd graders across the three Kindergarten cohorts, 55%-62% of ELs scored in the Below Average group from 2015-16 to 2017-18 (yellow section of stacked bars in Figure 26). In comparison, 43%-44% of non-ELs scored in the Below Average group from 2015-16 to 2017-18.

The percentage of ELs who scored in the Below Average group decreased by seven points from the 2013-14 Kindergarten cohort to the 2014-15 Kindergarten cohort and increased by one point from the 2014-15 Kindergarten cohort to the 2015-16 Kindergarten cohort. The percentage of non-ELs who scored in the Below Average group decreased by one point from the 2013-14 Kindergarten cohort to the 2015-16 Kindergarten cohort.

Figure 26. Percentage of 2nd graders in each aimsweb performance group from 2015-16 to 2017-18 by EL status



Source: Qlik Report Library Academic Screeners, accessed 1/13/2022; Qlik Report Library Enrollment Snapshots (Oct 1), accessed 1/13/2022.

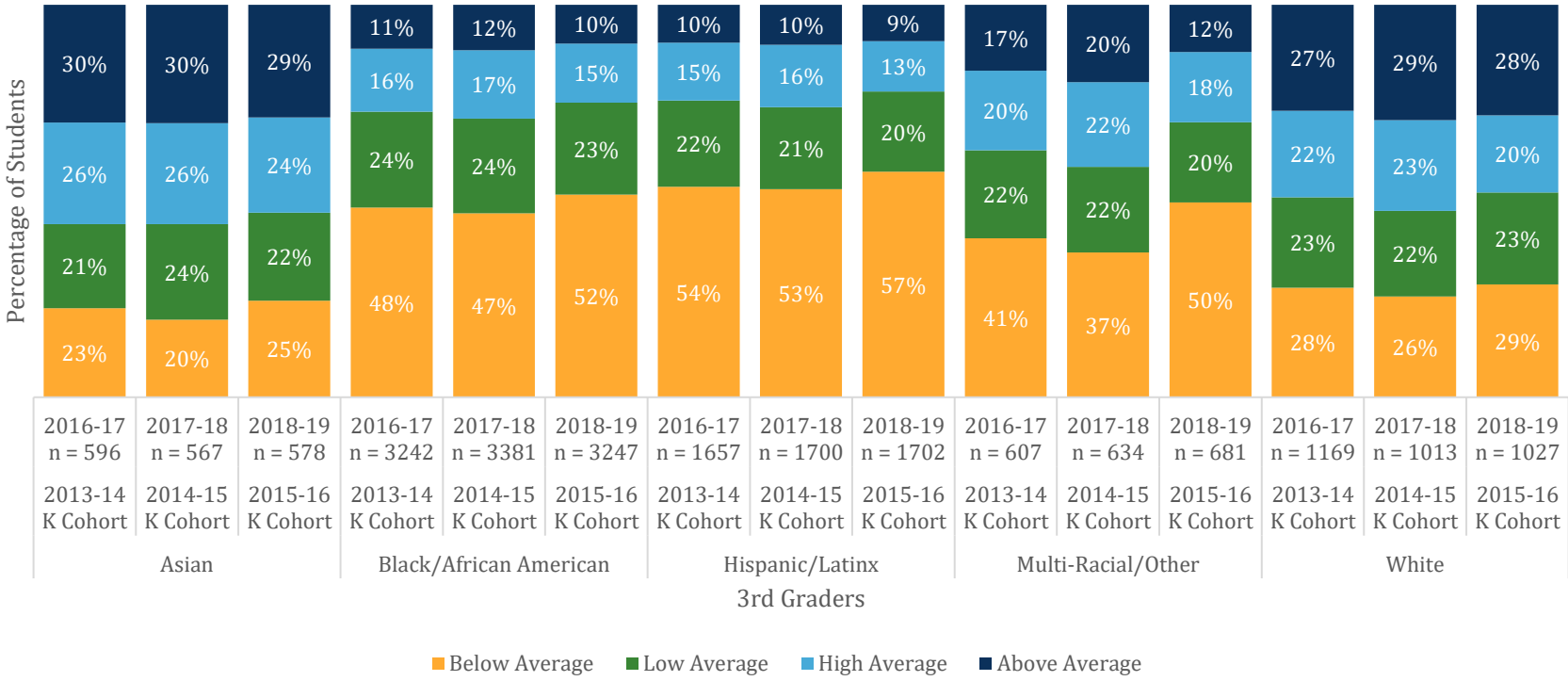
How did performance on the spring aimsweb reading assessment differ for 3rd graders in 2016-17, 2017-18, and 2018-19? Do patterns differ by demographic groups?

Across the three Kindergarten cohorts, 3rd grade performance for all racial/ethnic groups improved from 2016-17 to 2017-18, with a smaller percentage of students scoring in the Below Average group; however, 3rd grade performance then declined from 2017-18 to 2018-19, with a greater percentage of students scoring in the Below Average group.

For 3rd graders across the three Kindergarten cohorts, 20%-25% of Asian and 26%-29% of White students scored in the Below Average group from 2016-17 to 2018-19 (yellow section of stacked bars in Figure 27). In comparison, 37%-50% of Multi-Racial/Other students, 47%-52% of Black/African American students, and 53%-57% of Hispanic/Latinx students scored in the Below Average group from 2016-17 to 2018-19.

The percentage of Asian students who scored in the Below Average group increased by two points, the percentage of Black/ African American students who scored in the Below Average group increased by four points, the percentage of Hispanic/Latinx students who scored in the Below Average group increased by three points, the percentage of Multi-Racial/Other students who scored in the Below Average group increased by nine points, and the percentage of White students who scored in the Below Average group increased by one point from 2016-17 to 2018-19. Another interpretation is that the percentage of students in all race/ethnicity groups who scored in the Below Average group decreased from the 2013-14 Kindergarten cohort to the 2014-15 Kindergarten cohort, and then increased from the 2014-15 Kindergarten cohort to the 2015-16 Kindergarten cohort.

Figure 27. Percentage of 3rd graders in each aimsweb performance group from 2016-17 to 2018-19 by race/ethnicity student group



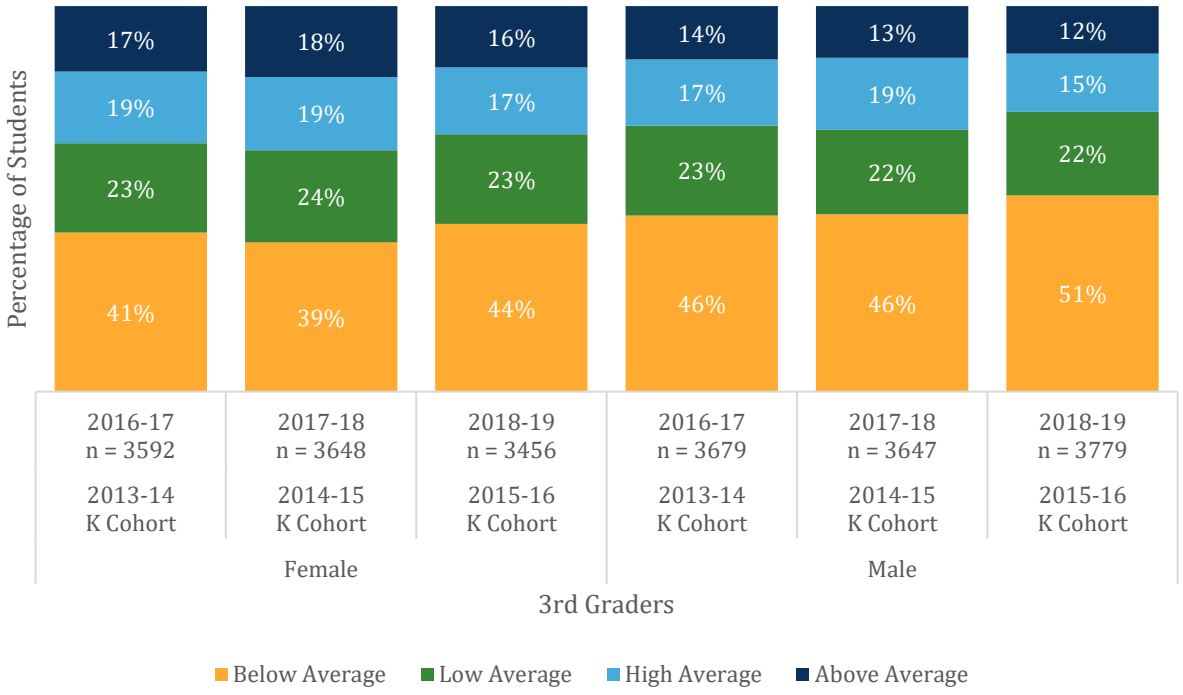
Source: Qlik Report Library Academic Screeners, accessed 1/13/2022; Qlik Report Library Enrollment Snapshots (Oct 1), accessed 1/13/2022.

Across the three Kindergarten cohorts, 3rd grade performance for both female and male students declined from 2016-17 to 2018-19, with a three-point increase in the percentage of female students scoring in the Below Average group and a five-point increase for male students.

For 3rd graders across the three Kindergarten cohorts, 39%-44% of female students scored in the Below Average group from 2016-17 to 2018-19 (yellow section of stacked bars in Figure 28). In comparison, 46%-51% of male students scored in the Below Average group from 2016-17 to 2018-19.

The percentage of female students who scored in the Below Average group increased by three points, and the percentage of male students who scored in the Below Average group increased by five points from 2016-17 to 2018-19. Another interpretation is that the percentage of female students who scored in the Below Average group decreased from the 2013-14 Kindergarten cohort to the 2014-15 Kindergarten cohort, and then increased from the 2014-15 Kindergarten cohort to the 2015-16 Kindergarten cohort. In comparison, the percentage of male students who scored in the Below Average group increased from the 2013-14 Kindergarten cohort to the 2015-16 Kindergarten cohort.

Figure 28. Percentage of 3rd graders in each aimsweb performance group from 2016-17 to 2018-19 by gender student group



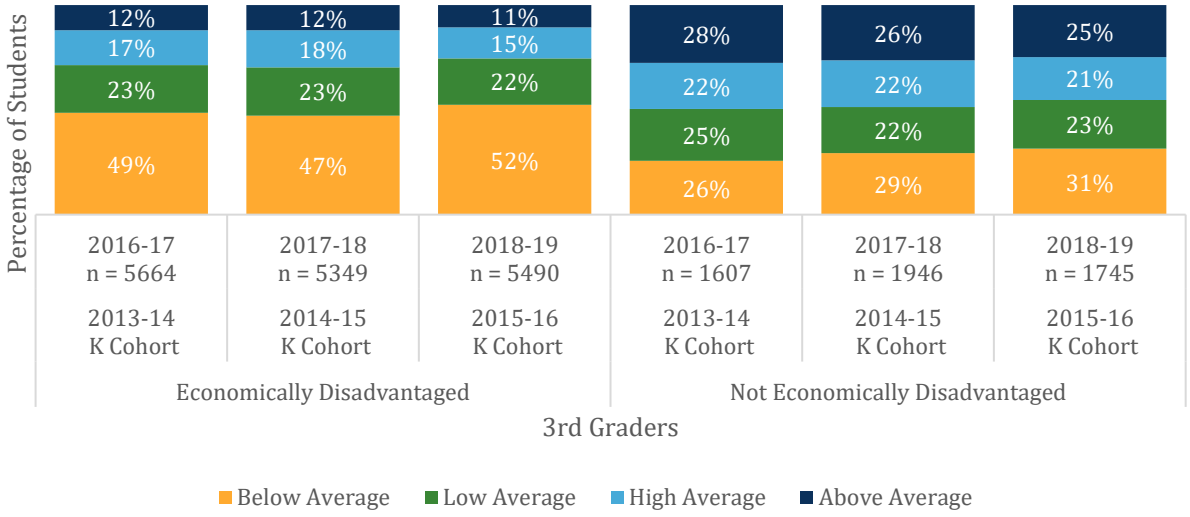
Source: Qlik Report Library Academic Screeners, accessed 1/13/2022; Qlik Report Library Enrollment Snapshots (Oct 1), accessed 1/13/2022.

Across the three Kindergarten cohorts, 3rd grade performance for both economically disadvantaged and non-economically disadvantaged students declined from 2016-17 to 2018-19; however, the percent increase in the Below Average group was greater for non-economically disadvantaged students than economically disadvantaged students, thus decreasing the disparity in Below Average performance between the two groups from 23 percentage points in 2016-17 to 21 percentage points in 2018-19.

For 3rd graders across the three Kindergarten cohorts, 47%-52% of economically disadvantaged students scored in the Below Average group from 2016-17 to 2018-19 (yellow section of stacked bars in Figure 29). In comparison, 26%-31% of non-economically disadvantaged students scored in the Below Average group from 2016-17 to 2018-19.

The percentage of economically disadvantaged students who scored in the Below Average group increased by three points and the percentage of non-economically disadvantaged students who scored in the Below Average group increased by five points from 2016-17 to 2018-19. Another interpretation is that the percentage of economically disadvantaged students who scored in the Below Average group decreased from the 2013-14 Kindergarten cohort to the 2014-15 Kindergarten cohort, and then increased from the 2014-15 to the 2015-16 Kindergarten cohort. In comparison, the percentage of non-economically disadvantaged students who scored in the Below Average group increased from the 2013-14 to the 2015-16 Kindergarten cohort.

Figure 29. Percentage of 3rd graders in each aimsweb performance group from 2016-17 to 2018-19 by economic disadvantage status



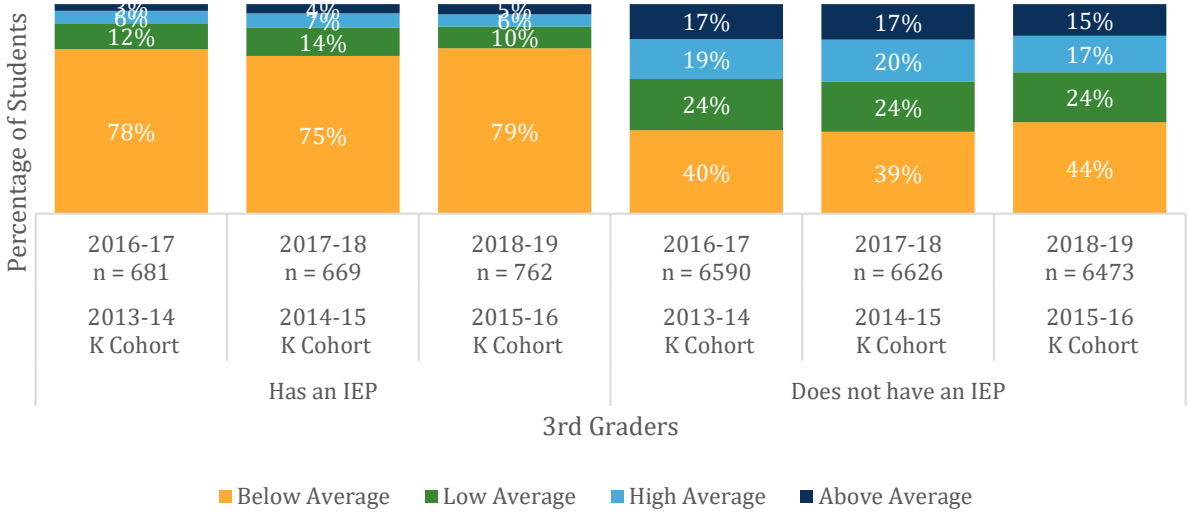
Source: Qlik Report Library Academic Screeners, accessed 1/13/2022; Qlik Report Library Enrollment Snapshots (Oct 1), accessed 1/13/2022.

Across the three Kindergarten cohorts, 3rd grade performance for both students with an IEP and students without an IEP declined from 2016-17 to 2018-19; however, the percent increase in the Below Average group was greater for students without an IEP than students with an IEP, thus decreasing the disparity in Below Average performance between the two groups from 38 percentage points in 2016-17 to 35 percentage points in 2018-19.

For 3rd graders across the three Kindergarten cohorts, 75%-79% of students with an IEP scored in the Below Average group from 2016-17 to 2018-19 (yellow section of stacked bars in Figure 30). In comparison, 39%-44% of students without an IEP scored in the Below Average group from 2016-17 to 2018-19.

The percentage of students with an IEP who scored in the Below Average group decreased by three points from 2016-17 to 2017-18 and increased by four points from 2017-18 to 2018-19. The percentage of students without an IEP who scored in the Below Average group decreased by one percentage point from 2016-17 to 2017-18 and increased by five percentage points from 2017-18 to 2018-19.

Figure 30. Percentage of 3rd graders in each aimsweb performance group from 2016-17 to 2018-19 by special education status



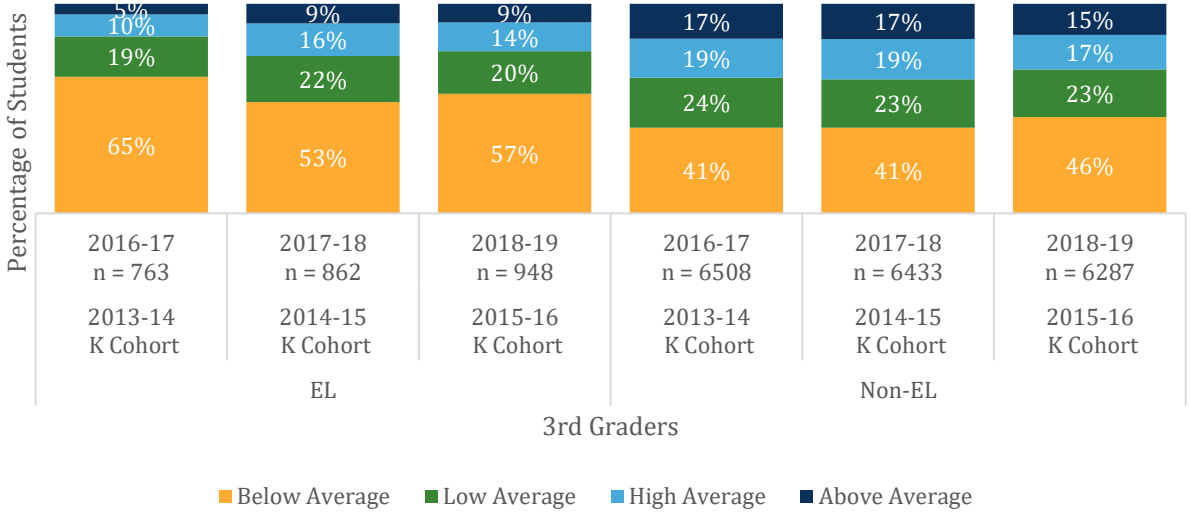
Source: Qlik Report Library Academic Screeners, accessed 1/13/2022; Qlik Report Library Enrollment Snapshots (Oct 1), accessed 1/13/2022.

Across the three Kindergarten cohorts, 3rd grade performance for ELs improved from 2016-17 to 2018-19, while the performance for non-ELs declined, thus decreasing the disparity in Below Average performance between the two groups from 24 percentage points in 2016-17 to 11 percentage points in 2018-19.

For 3rd graders across the three Kindergarten cohorts, 53%-65% of ELs scored in the Below Average group from 2016-17 to 2018-19 (yellow section of stacked bars in Figure 31). In comparison, 41%-46% of non-ELs scored in the Below Average group from 2016-17 to 2018-19.

The percentage of ELs who scored in the Below Average group decreased by 12 points from 2016-17 to 2017-18 and increased by four points from 2017-18 to 2018-19. The percentage of non-ELs increased by five percentage points from 2016-17 to 2018-19.

Figure 31. Percentage of 3rd graders in each aimsweb performance group from 2016-17 to 2018-19 by EL status



Source: Qlik Report Library Academic Screeners, accessed 1/13/2022; Qlik Report Library Enrollment Snapshots (Oct 1), accessed 1/13/2022.

Conclusions

This report analyzed the performance patterns of 1st, 2nd, and 3rd graders who took the aimsweb Reading - Curriculum Based Measurement (R-CBM) from 2014-15 to 2016-17 and/or the aimswebPlus Oral Reading Fluency (ORF) assessment from 2017-18 to 2018-19 during spring of each year. The aim was to examine patterns in cohort performance over time and patterns between students in the same grade levels across different years.

How did the performance of students within the same cohort change over time?

Looking within student groups, on average, students in the 2013-14 Kindergarten cohort and 2014-15 Kindergarten cohort followed similar patterns between students' 1st through 3rd grade years, while the 2015-16 Kindergarten cohort followed slightly different patterns.

For example, for the 2013-14 Kindergarten cohort and 2014-15 Kindergarten cohort, students in all racial/ethnic groups, both male and female students, and economically disadvantaged students saw improved performance, with decreases in the percentage of students who scored in the Below Average group from 1st grade to 3rd grade. These patterns demonstrate overall declines in the percentage of students scoring in the lowest aimsweb and aimswebPlus performance group and increases in the higher performance groups.

In comparison, performance trends for the 2015-16 Kindergarten cohort were more mixed. The Below Average group saw decreases in the percentage of students in all racial/ethnic groups from 1st grade to 2nd grade, but there was no change or an increase from 2nd to 3rd grade; female students saw a slight decrease in the Below Average group from 1st to 3rd grade while male students saw a slight increase. Like the student racial/ethnic group findings for the 2015-16 Kindergarten cohort, economically disadvantaged students saw no change in the percentage of students who scored in the Below Average group from 1st grade to 3rd grade.

English Learners (ELs) and students with an IEP did not follow the same average trends over time across the three cohorts. For the 2014-15 Kindergarten cohort and 2015-16 Kindergarten cohort, ELs saw a five-to-six-point decrease in the percentage of students who scored in the Below Average group from 1st grade to 3rd grade. Unlike the later cohorts, ELs in the 2013-14 Kindergarten cohort saw a one percentage point increase in the percentage of students who scored in the Below Average group from 1st grade to 3rd grade.

In comparison, students with IEPs saw incrementally increasing percentages of students scoring in the Below Average group from 1st grade to 3rd grade for all three cohorts. That is, the 2013-14 Kindergarten cohort saw a three-point increase, the 2014-15 Kindergarten cohort saw a five-point increase, and the 2015-16 Kindergarten cohort saw a seven-point increase in the percentage of students with an IEP scoring in the Below Average group from 1st grade to 3rd grade.

How did the performance of students in the same grade levels differ between cohorts?

First grade students had improved performance across cohorts, meaning that each year, a smaller percentage of first graders scored in the Below Average performance group.

Examining student performance between the same grade level across cohorts demonstrated inconsistent patterns by grade level. For example, first graders tended to have similar patterns across student groups. Students in all racial/ethnic groups, male and female students, economically disadvantaged students, students with an IEP, and ELs all saw a decline in the percentage of 1st graders scoring in the Below Average group from the 2013-14 Kindergarten cohort to the 2015-16 Kindergarten cohort. Another way to consider this is that over time, fewer students ended first grade in the Below Average group than the cohort before them.

Second grade students showed improved performance in some instances and a lack of movement in others, which resulted in little change in the percentage of second graders scoring in the Below Average performance group across school years.

Second graders saw less consistent patterns over time. For 2nd graders across the three Kindergarten cohorts, the percentage of Asian, Multi-Racial/Other, and White students who scored in the Below Average group decreased from the 2013-14 Kindergarten cohort to the 2014-15 Kindergarten cohort, followed by an increase in the 2015-16 Kindergarten cohort.

In comparison, on average, male, female, and economically disadvantaged 2nd graders saw a one-to-two-point decline in the percentage of students scoring in the Below Average group from the 2013-14 Kindergarten cohort to the 2015-16 Kindergarten cohort. Similarly, 2nd grade ELs saw a six-point decrease in the percentage of students who scored in the Below Average group from the 2013-14 Kindergarten cohort to the 2015-16 Kindergarten cohort. Another way to consider this is that over time, fewer ELs ended second grade in the Below Average group than the cohort before them.

Unlike the other student groups, 2nd graders across the three Kindergarten cohorts, and students with an IEP saw little to no change in the percentage of students who scored in the Below Average group from the 2013-14 to the Kindergarten cohort to the 2015-16 Kindergarten cohort.

Third grade students generally showed a decline in performance over time, with more third graders scoring in the Below Average group.

Third graders experienced general increases in Below Average percentages across the three cohorts. For example, while the percentage of students in all racial/ethnic groups who scored in the Below Average group saw a decrease from the 2013-14 Kindergarten cohort to the 2014-15 Kindergarten cohort, the percentage then increased by an even greater amount from the 2014-15 Kindergarten cohort to the 2015-16 Kindergarten cohort.

Additionally, female students, male students, economically disadvantaged students, and students with an IEP across the three Kindergarten cohorts saw an increase in the percentage of students who scored in the Below Average group from the 2013-14 to the Kindergarten cohort to the 2015-16 Kindergarten cohort. Another way to consider this is that over time, more female students, male students, economically disadvantaged students, and students with an IEP ended third grade in the Below Average group than the cohort before them.

As a notable exception, ELs saw an eight-point decrease in the percentage of students who scored in the Below Average group from the 2013-14 Kindergarten cohort to the 2015-16 Kindergarten cohort. Another way to consider this is that over time, fewer ELs ended third grade in the Below Average group than the cohort before them. The decrease in the percentage of ELs scoring in the Below Average group from earlier cohorts—in comparison to female students, male students, economically disadvantaged students, and students with an IEP who experienced increases—may be reflecting the English skills that ELs gained throughout the previous years, increasing their overall reading performance.

By looking at the data in different ways, new patterns are revealed

Cohort analyses revealed improving performance patterns over time.

A benefit to an analysis that compares student cohorts across years is that it allows us to examine patterns for the same students over time. When we focused on the *cohort analysis* (Figures 2-16), we saw that in general, student groups experienced similar patterns across time. For example, across all three cohorts, the percentage of students scoring in the Below Average group appeared to be declining. There were some exceptions for certain student groups, but in general, there seems to be a pattern of improving performance from 1st to 3rd grade as students spend more years in school.

Cross-sectional analyses revealed different patterns between 1st and 3rd graders across cohorts.

When we compare student grade levels *cross-sectionally* (Figures 17-31), different patterns emerge. Looking at average 1st grade performance, there was slight improvement, with declines of about 1% in the percentage of students performing at Below Average from the earlier to the later Kindergarten cohorts. Another way to interpret this is that in the more recent cohorts, slightly fewer 1st grade students ended the year scoring in the lowest performance group. This pattern continues for 2nd graders, who saw minimal or no declines between cohorts.

The pattern is completely different for 3rd graders, who saw increases in the percentage of students performing at Below Average from the earlier to the later Kindergarten cohorts—or put another way, the most recent cohort ended 3rd grade with higher percentages of students scoring in the lowest performance group than the earlier cohorts in the student groups of interest. This type of analysis highlights the critical importance for continuing to focus on 3rd grade literacy.

The District's work is now guided by the Board of Education's Goals and Guardrails to monitor the progress of schools and students.[4] The second Board Goal concerns literacy performance of 3rd grade students. Aligned with this goal, SDP monitors Kindergarten through 3rd grade literacy performance at the classroom, school, Learning Network, and District level. and continues to focus on early literacy growth.

[4] For more information visit: https://www.philasd.org/schoolboard/goals-and-guardrails/

Appendix A

Table A1. Demographic sample of students included in the aimsweb analyses

Student Characteristic	2013-14 Kindergarten Cohort	2014-15 Kindergarten Cohort	2015-16 Kindergarten Cohort
Race/Ethnicity			
Asian	1776	1690	1729
Black/African American	9633	10109	9693
Hispanic/Latinx	4973	5083	5050
Multi-Racial/Other	1962	1983	2177
White	3469	3020	3056
Gender			
Female	10768	10932	10367
Male	11045	10953	11338
Socio-Economic Status			
Economically Disadv.	15618	16218	16509
Not Economically Disadv.	6195	5667	5196
Special Education Status			
Students with IEPs	1641	1557	1753
Students without IEPs	20172	20328	19952
English Learner Status			
English Learner	2499	2607	2857
Not an English Learner	19314	19278	18848

Source: Qlik Report Library Academic Screeners, accessed 1/13/2022; Qlik Report Library Enrollment Snapshots (Oct 1), accessed 1/13/2022.

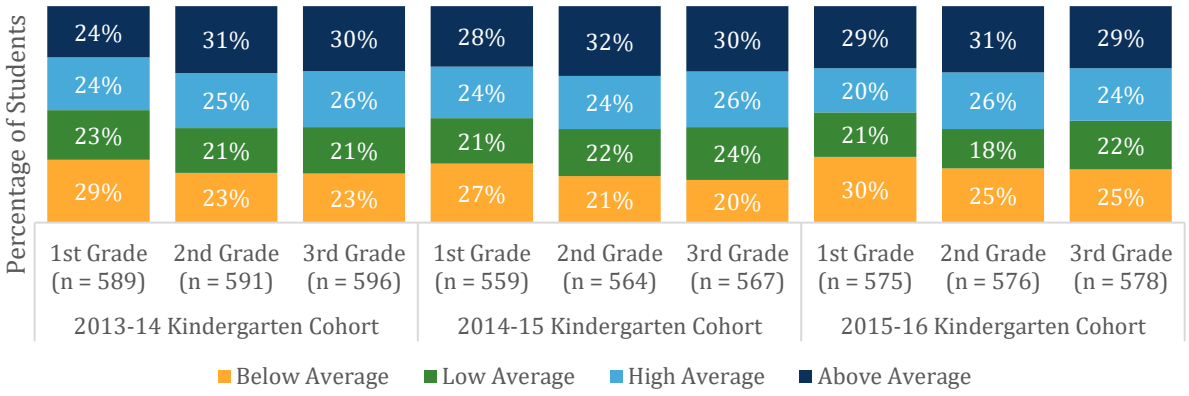
Appendix B

How did performance on the aimswebPlus reading assessment change from 2014-15 to 2018-19 for 1st, 2nd, and 3rd grade SDP students? Were there differences in patterns by demographic characteristics?

How did the performance of the same cohorts of students change over time?

Across all three cohorts and school years, 27%-30% of Asian students scored in the Below Average aimsweb Reading performance group during spring of 1st grade (Figure B1). A smaller percentage (20%-25%) of students scored in the Below Average aimsweb Reading performance group during spring of 2nd grade and 3rd grade.

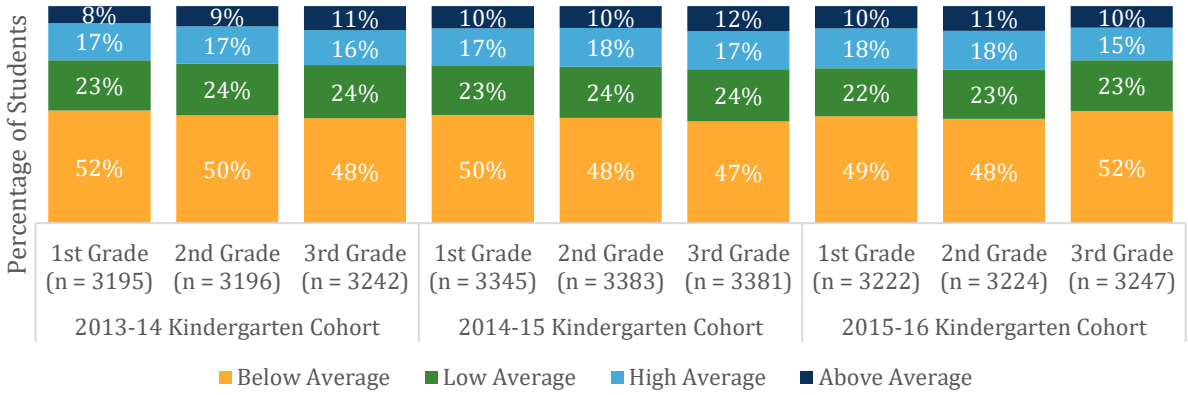
Figure B1. Race/Ethnicity Student Group Analyses: The Percentage of students who performed in the four aimsweb performance groups on the Reading ORF from 1st grade to 3rd grade for the 2013-14, 2014-15, and 2015-16 Kindergarten cohorts for Asian students



Source: Qlik Report Library Academic Screeners, accessed 1/13/2022; Qlik Report Library Enrollment Snapshots (Oct 1), accessed 1/13/2022.

Across all three cohorts and school years, 49%-52% of Black/African American students scored in the Below Average aimsweb Reading performance group during spring of 1st grade (Figure B2). A slightly smaller percentage (48%-50%) of students scored in the Below Average aimsweb Reading performance group during spring of 2nd grade. For the 2013-14 and 2014-15 Kindergarten cohorts, this percentage shrinks further in the spring of 3rd grade with 47%-48% of students scoring in the Below Average aimsweb Reading performance group. This did not continue for the 2015-16 Kindergarten cohort, with 52% of students scoring in the Below Average aimsweb Reading performance group during spring of 3rd grade. The patterns reflected in the Black/African American student population are consistent with the trends of the overall SDP population.

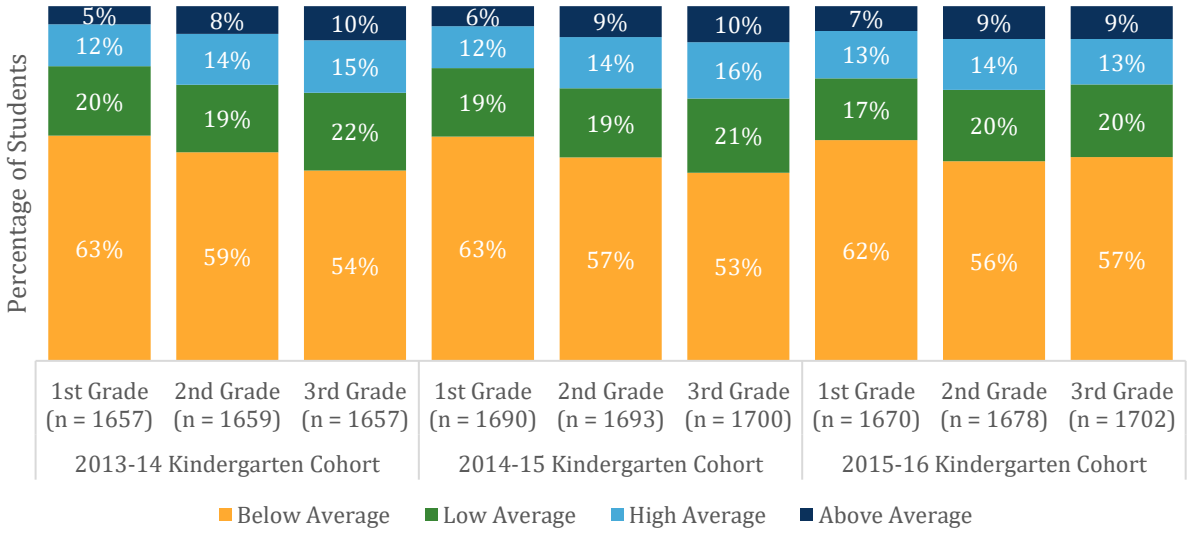
Figure B2. Race/Ethnicity Student Group Analyses: The Percentage of students who performed in the four aimsweb performance groups on the Reading ORF from 1st grade to 3rd grade for the 2013-14, 2014-15, and 2015-16 Kindergarten cohorts for Black/African American students



Source: Qlik Report Library Academic Screeners, accessed 1/13/2022; Qlik Report Library Enrollment Snapshots (Oct 1), accessed 1/13/2022.

Across all three cohorts and school years, 62%-63% of Hispanic/Latinx students scored in the Below Average aimsweb Reading performance group during spring of 1st grade (Figure B3). A slightly smaller percentage (56%-59%) of students scored in the Below Average aimsweb Reading performance group during spring of 2nd grade. For the 2013-14 and 2014-15 Kindergarten cohorts, this percentage shrinks further in the spring of 3rd grade with 53%-54% of students scoring in the Below Average aimsweb Reading performance group. This did not continue for the 2015-16 Kindergarten cohort, with 57% of students scoring in the Below Average aimsweb Reading performance group during spring of 3rd grade. The patterns reflected in the Hispanic/Latinx student population follow the trends of the overall SDP population.

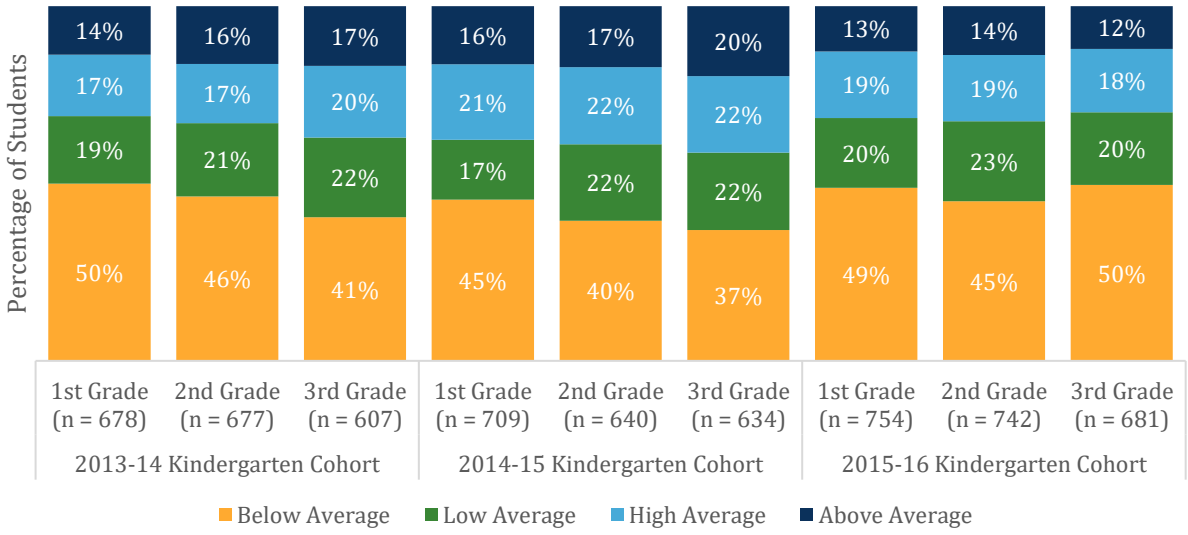
Figure B3. Race/Ethnicity Student Group Analyses: The Percentage of students who performed in the four aimsweb performance groups on the Reading ORF from 1st grade to 3rd grade for the 2013-14, 2014-15, and 2015-16 Kindergarten cohorts for Hispanic/Latinx students



Source: Qlik Report Library Academic Screeners, accessed 1/13/2022; Qlik Report Library Enrollment Snapshots (Oct 1), accessed 1/13/2022.

Across all three cohorts and school years, 45%-50% of Multi-Racial/Other students scored in the Below Average aimsweb Reading performance group during spring of 1st grade (Figure B4). A slightly smaller percentage (40%-46%) of students scored in the Below Average aimsweb Reading performance group during spring of 2nd grade. For the 2013-14 and 2014-15 Kindergarten cohorts, this percentage shrinks further in the spring of 3rd grade with 37%-41% of students scoring in the Below Average aimsweb Reading performance group. This did not continue for the 2015-16 Kindergarten cohort, with 50% of students scoring in the Below Average aimsweb Reading performance group during spring of 3rd grade. The patterns reflected in the Multi-Racial/Other student population mirror the trends of the overall SDP population.

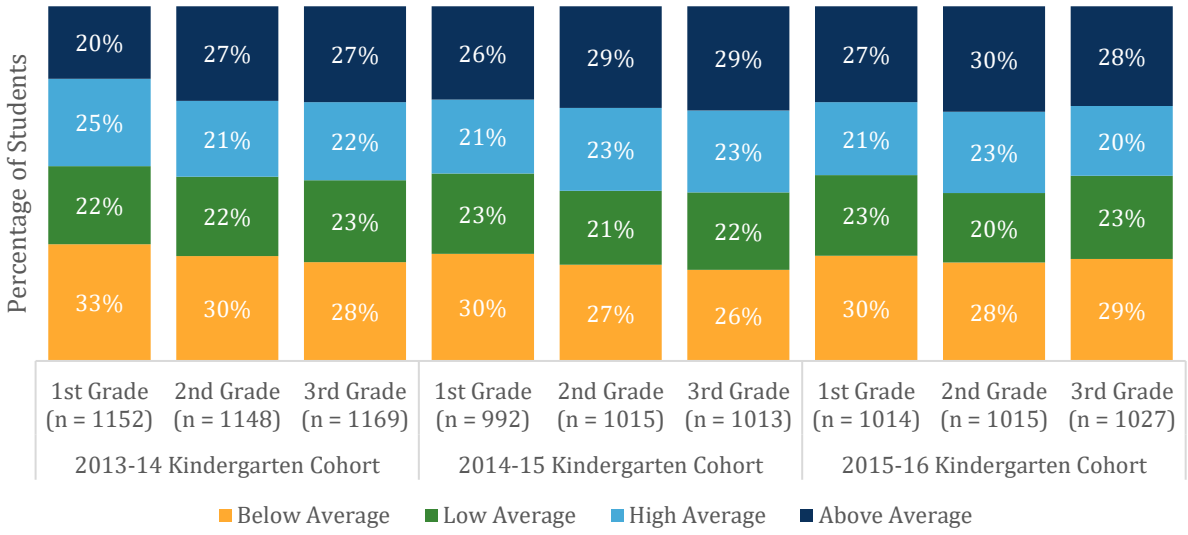
Figure B4. Race/Ethnicity Student Group Analyses: The Percentage of students who performed in the four aimsweb performance groups on the Reading ORF from 1st grade to 3rd grade for the 2013-14, 2014-15, and 2015-16 Kindergarten cohorts for Multi-Racial/Other students



Source: Qlik Report Library Academic Screeners, accessed 1/13/2022; Qlik Report Library Enrollment Snapshots (Oct 1), accessed 1/13/2022.

Across all three cohorts and school years, 30%-33% of White students scored in the Below Average aimsweb Reading performance group during spring of 1st grade (Figure B5). A smaller percentage (26%-30%) of students scored in the Below Average aimsweb Reading performance group during spring of 2nd grade and 3rd grade.

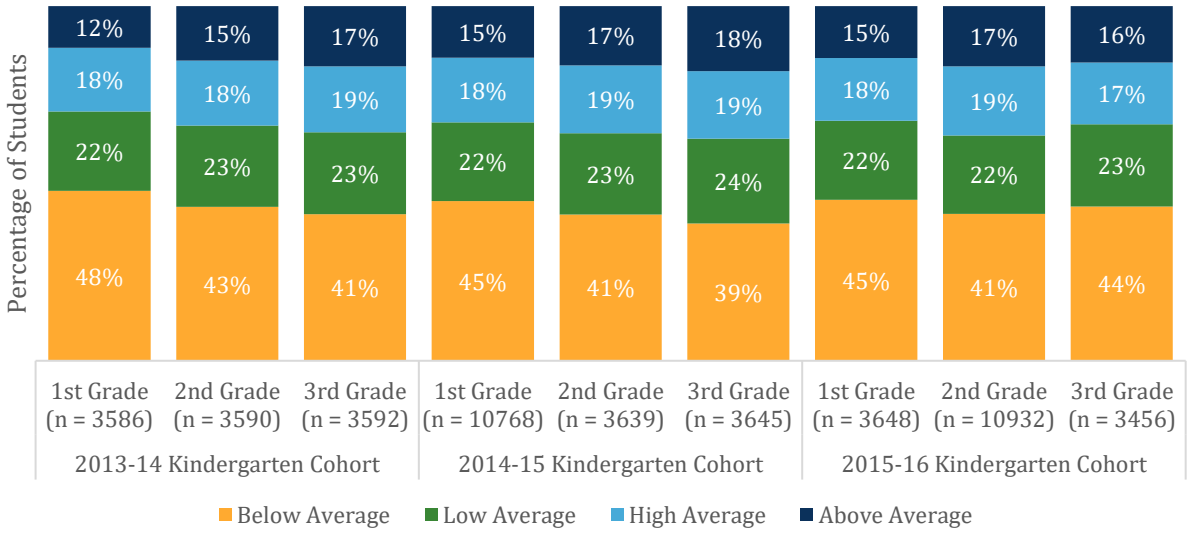
Figure B5. Race/Ethnicity Student Group Analyses: The Percentage of students who performed in the four aimsweb performance groups on the Reading ORF from 1st grade to 3rd grade for the 2013-14, 2014-15, and 2015-16 Kindergarten cohorts for White students



Source: Qlik Report Library Academic Screeners, accessed 1/13/2022; Qlik Report Library Enrollment Snapshots (Oct 1), accessed 1/13/2022.

Across all three cohorts and school years, 45%-48% of female students scored in the Below Average aimsweb Reading performance group during spring of 1st grade (Figure B6). A slightly smaller percentage (41%-43%) of students scored in the Below Average aimsweb Reading performance group during spring of 2nd grade. For the 2013-14 and 2014-15 Kindergarten cohorts, this percentage shrinks further in the spring of 3rd grade with 39%-41% of students scoring in the Below Average aimsweb Reading performance group. This did not continue for the 2015-16 Kindergarten cohort, with 44% of students scoring in the Below Average aimsweb Reading performance group during spring of 3rd grade. The patterns reflected in the female student population are consistent with the trends of the overall SDP population.

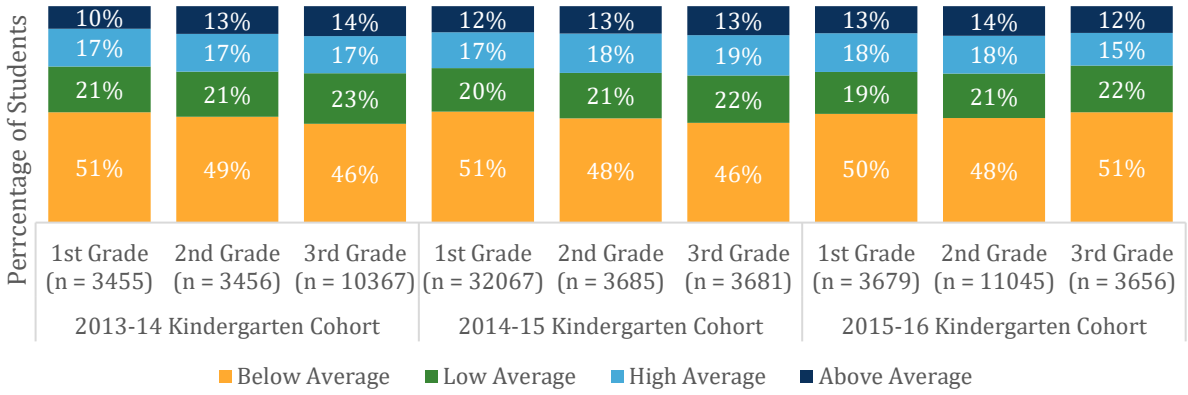
Figure B6. Gender Student Group Analyses: The Percentage of students who performed in the four aimsweb performance groups on the Reading ORF from 1st grade to 3rd grade for the 2013-14, 2014-15, and 2015-16 Kindergarten cohorts for female students



Source: Qlik Report Library Academic Screeners, accessed 1/13/2022; Qlik Report Library Enrollment Snapshots (Oct 1), accessed 1/13/2022.

Across all three cohorts and school years, 50%-51% of male students scored in the Below Average aimsweb Reading performance group during spring of 1st grade (Figure B7). A slightly smaller percentage (48%-49%) of students scored in the Below Average aimsweb Reading performance group during spring of 2nd grade. For the 2013-14 and 2014-15 Kindergarten cohorts, this percentage shrinks further in the spring of 3rd grade with 46% of students scoring in the Below Average aimsweb Reading performance group. This did not continue for the 2015-16 Kindergarten cohort, with 51% of students scoring in the Below Average aimsweb Reading performance group during spring of 3rd grade. The patterns reflected in the male student population mirror the trends of the overall SDP population.

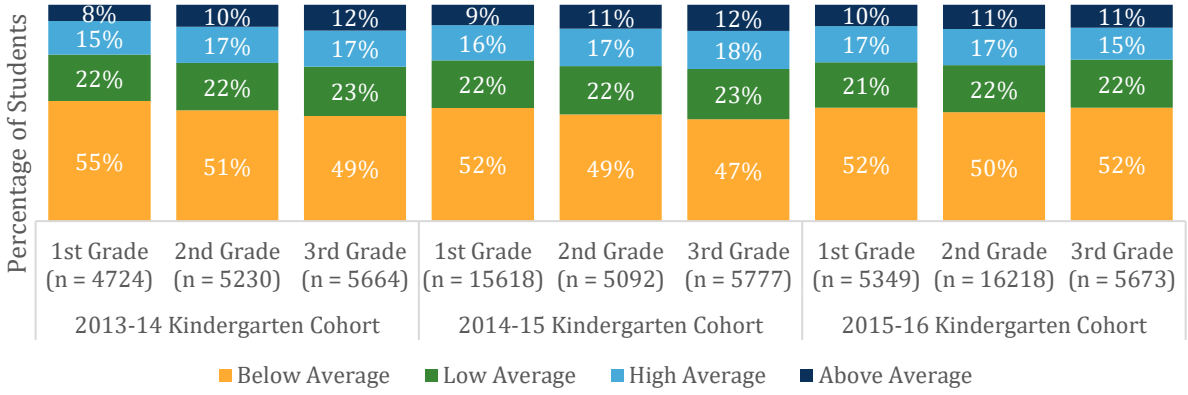
Figure B7. Gender Student Group Analyses: The Percentage of students who performed in the four aimsweb performance groups on the Reading ORF from 1st grade to 3rd grade for the 2013-14, 2014-15, and 2015-16 Kindergarten cohorts for male students



Source: Qlik Report Library Academic Screeners, accessed 1/13/2022; Qlik Report Library Enrollment Snapshots (Oct 1), accessed 1/13/2022.

Across all three cohorts and school years, 52%-55% of economically disadvantaged students scored in the Below Average aimsweb Reading performance group during spring of 1st grade (Figure B8). A slightly smaller percentage (49%-51%) of students scored in the Below Average aimsweb Reading performance group during spring of 2nd grade. For the 2013-14 and 2014-15 Kindergarten cohorts, this percentage shrinks further in the spring of 3rd grade with 47%-49% of students scoring in the Below Average aimsweb Reading performance. This did not continue for the 2015-16 Kindergarten cohort, with 52% of students scoring in the Below Average aimsweb Reading performance group during spring of 3rd grade. The patterns reflected in the economically disadvantaged student population follows the trends of the overall SDP population.

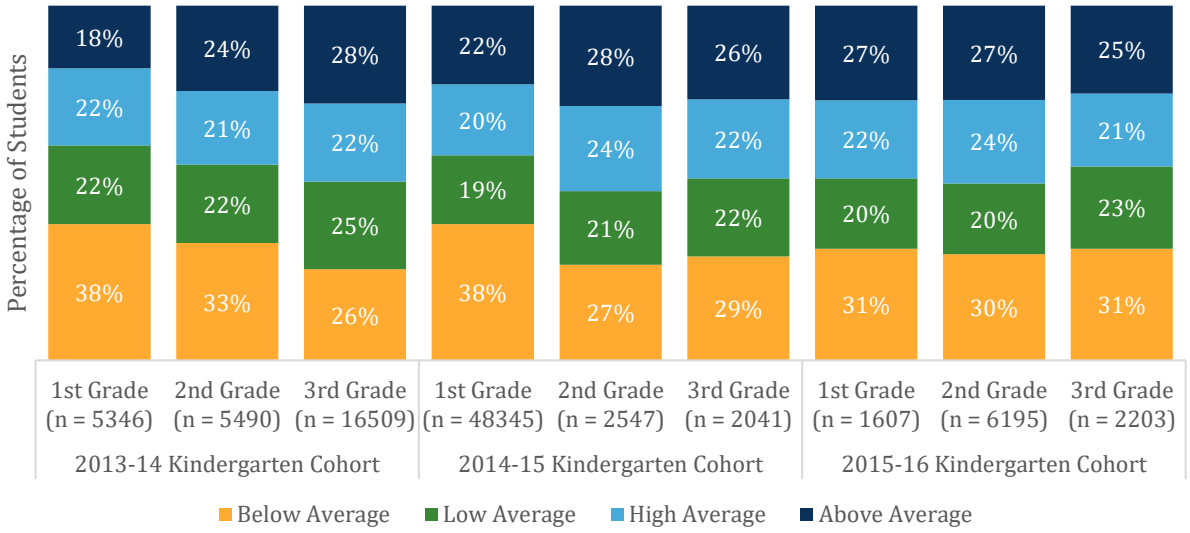
Figure B8. Economic Disadvantage Status Student Group Analyses: The Percentage of students who performed in the four aimsweb performance groups on the Reading ORF from 1st grade to 3rd grade for the 2013-14, 2014-15, and 2015-16 Kindergarten cohorts for economically disadvantaged students



Source: Qlik Report Library Academic Screeners, accessed 1/13/2022; Qlik Report Library Enrollment Snapshots (Oct 1), accessed 1/13/2022.

For non-economically disadvantaged students, all three cohorts experienced different patterns across the three years of interest (Figure B9). Thirty-eight percent (38%) of the 2013-14 Kindergarten cohort scored in the Below Average aimsweb Reading performance group during spring of 1st grade; this percentage declined to 33% for spring of 2nd grade and again to 26% for spring of 3rd grade. The percentage of the 2014-15 Kindergarten cohort who scored in the Below Average aimsweb Reading performance group during spring of 1st grade was 38% as well, and this percentage declined to 27% for spring of 2nd grade followed by an increase to 29% for spring of 3rd grade. In comparison, the percentage of students in the 2015-16 Kindergarten cohort who scored in the Below Average aimsweb Reading performance group during spring of 1st grade, 2nd grade, and 3rd grade ranged from 30% to 31%, remaining virtually unchanged between the three years.

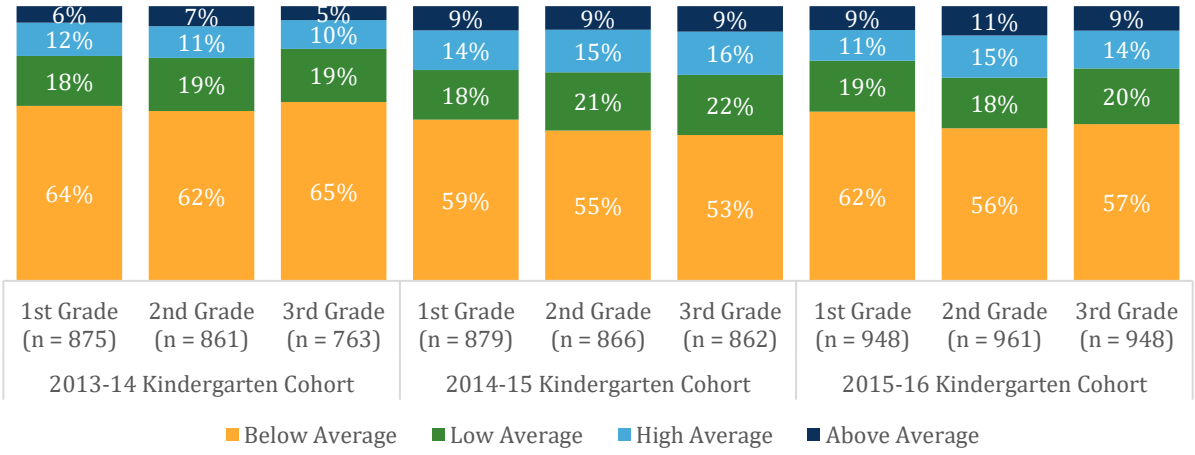
Figure B9. Economic Disadvantage Status Student Group Analyses: The Percentage of students who performed in the four aimsweb performance groups on the Reading ORF from 1st grade to 3rd grade for the 2013-14, 2014-15, and 2015-16 Kindergarten cohorts for non-economically disadvantaged students



Source: Qlik Report Library Academic Screeners, accessed 1/13/2022; Qlik Report Library Enrollment Snapshots (Oct 1), accessed 1/13/2022.

For English Learners (ELs), all three cohorts experienced different patterns across the three years of interest (Figure B10). The percentage of the 2013-14 Kindergarten cohort who scored in the Below Average aimsweb Reading performance group during spring of 1st grade was 64%; this percentage declined to 62% for spring of 2nd grade but increased to 65% for spring of 3rd grade. The percentage of the 2014-15 Kindergarten cohort who scored in the Below Average aimsweb Reading performance group during spring of 1st grade was 59%, and this percentage declined to 55% for spring of 2nd grade and declined again to 53% for spring of 3rd grade. In comparison, the percentage of students in the 2015-16 Kindergarten cohort who scored in the Below Average aimsweb Reading performance group during spring of 1st grade was 62%; this percentage declined to 56% for spring of 2nd grade but increased to 57% for spring of 3rd grade.

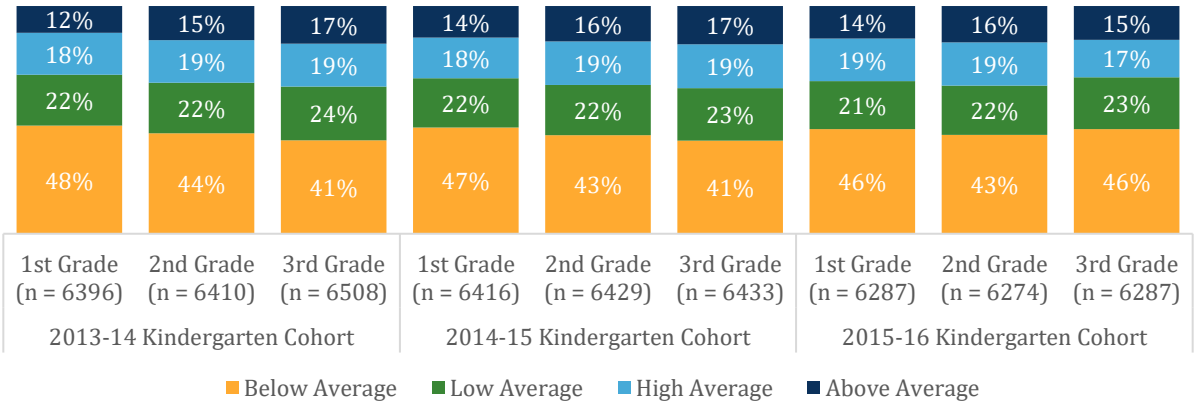
Figure B10. English Learner Status Student Group Analyses: The Percentage of students who performed in the four aimsweb performance groups on the Reading ORF from 1st grade to 3rd grade for the 2013-14, 2014-15, and 2015-16 Kindergarten cohorts for English Learners



Source: Qlik Report Library Academic Screeners, accessed 1/13/2022; Qlik Report Library Enrollment Snapshots (Oct 1), accessed 1/13/2022.

Across all three cohorts and school years, 46%-48% of non-ELs students scored in the Below Average aimsweb Reading performance group during spring of 1st grade (Figure B11). A slightly smaller percentage (43%-44%) of students scored in the Below Average aimsweb Reading performance group during spring of 2nd grade. For the 2013-14 and 2014-15 Kindergarten cohorts, this percentage shrinks further in the spring of 3rd grade with 41% of students scoring in the Below Average aimsweb Reading performance group. This did not continue for the 2015-16 Kindergarten cohort, with 46% of students scoring in the Below Average aimsweb Reading performance group during spring of 3rd grade. The patterns reflected in the economically disadvantaged student population follow the trends of the overall SDP population.

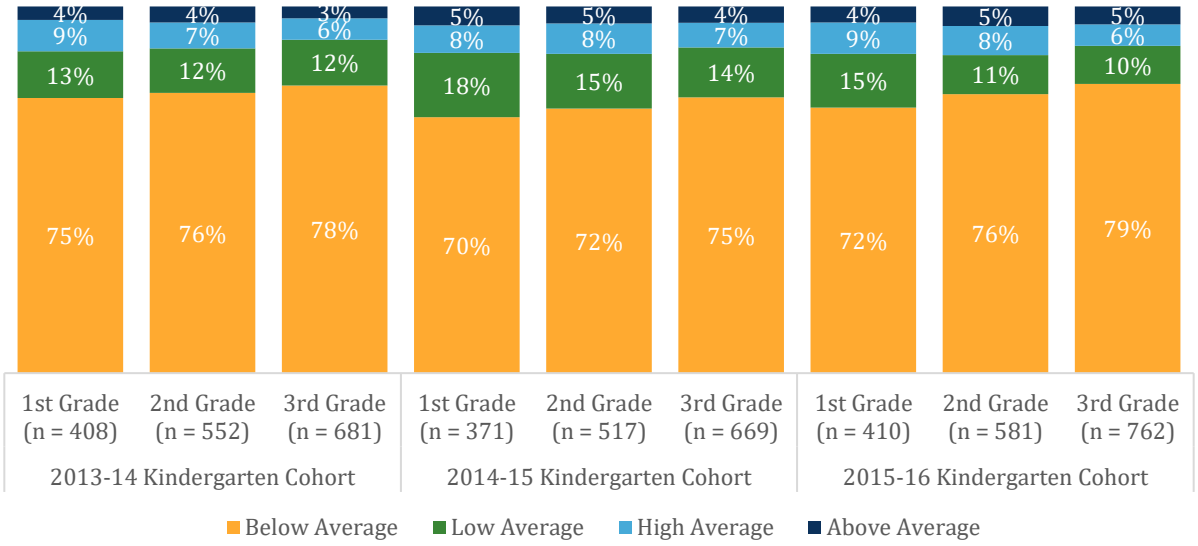
Figure B11. English Learner Status Student Group Analyses: The Percentage of students who performed in the four aimsweb performance groups on the Reading ORF from 1st grade to 3rd grade for the 2013-14, 2014-15, and 2015-16 Kindergarten cohorts for non-English Learners



Source: Qlik Report Library Academic Screeners, accessed 1/13/2022; Qlik Report Library Enrollment Snapshots (Oct 1), accessed 1/13/2022.

Across all three cohorts and school years, 70%-75% of students with an IEP scored in the Below Average aimsweb Reading performance group during spring of 1st grade (Figure B12). A slightly larger percentage (72%-76%) of students scored in the Below Average aimsweb Reading performance group during spring of 2nd grade. This percentage increased into 3rd grade, with 75%-79% of students scoring in the Below Average aimsweb Reading performance group in spring of 3rd grade.

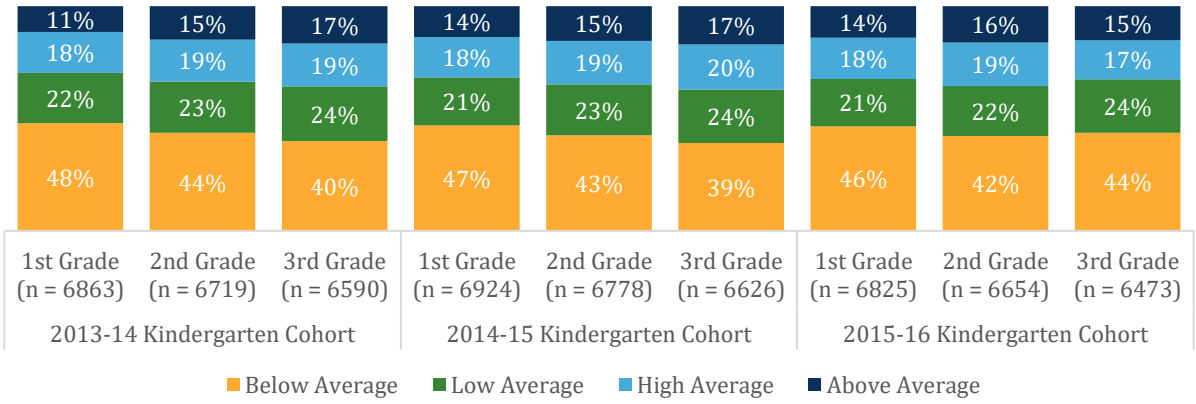
Figure B12. Special Education Status Student Group Analyses: The Percentage of students who performed in the four aimsweb performance groups on the Reading ORF from 1st grade to 3rd grade for the 2013-14, 2014-15, and 2015-16 Kindergarten cohorts for students with IEPs



Source: Qlik Report Library Academic Screeners, accessed 1/13/2022; Qlik Report Library Enrollment Snapshots (Oct 1), accessed 1/13/2022.

Across all three cohorts and school years, 46%-48% of students without an IEP scored in the Below Average aimsweb Reading performance group during spring of 1st grade (Figure B13). A slightly smaller percentage (42%-44%) of students scored in the Below Average aimsweb Reading performance group during spring of 2nd grade. For the 2013-14 and 2014-15 Kindergarten cohorts, this percentage shrinks further in the spring of 3rd grade with 39%-40% of students scoring in the Below Average aimsweb Reading performance group. This did not continue for the 2015-16 Kindergarten cohort, with 44% of students scoring in the Below Average aimsweb Reading performance group during spring of 3rd grade. The patterns reflected in the students without an IEP population are consistent with the trends of the overall SDP population.

Figure B13. Special Education Status Student Group Analyses: The Percentage of students who performed in the four aimsweb performance groups on the Reading ORF from 1st grade to 3rd grade for the 2013-14, 2014-15, and 2015-16 Kindergarten cohorts for students without IEPs



Source: Qlik Report Library Academic Screeners, accessed 1/13/2022; Qlik Report Library Enrollment Snapshots (Oct 1), accessed 1/13/2022.