

## **A Four-Year Summary of “Summer” Learning Loss: Changes in K-2 Independent Reading Levels from June to November, 2016-2019**

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*In July 2019, we published a brief on “summer” learning loss from 2015-16 to 2018-19.<sup>1</sup> This brief updates and extends those analyses by adding a fourth “summer” of information about K-2 independent reading levels and examining student performance by demographic characteristics, Special Education and English Learner status, as well as zip code of residence. The introductory text is included here for reference; that text, as well as the overall format, are the same as the July 2019 brief.*

### **What is Summer Learning Loss?**

Summer is still a critical time for learning. Research shows that students’ skills often decline during the summer, with low-income students experiencing an average summer loss of about two months of reading achievement. By fifth grade, this decline can leave low-income students 2.5 to 3 years behind their peers.<sup>2</sup>

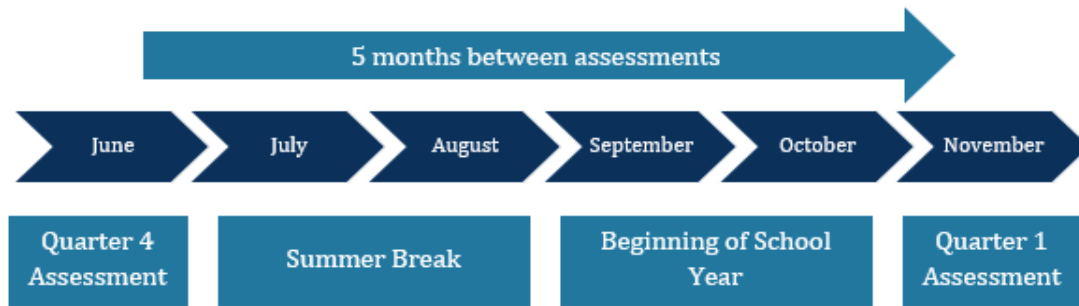
For this brief, we examined the prevalence of “summer” learning loss in Philadelphia by analyzing the change in K-2 student independent reading levels between the spring (near the end of one school year) and the fall (near the beginning of the next school year). “Summer” encompasses the five months that pass between student assessment periods (June to November), including approximately three months of summer vacation and two months of instruction (Figure 1). Due to the timing of assessments, it’s possible for a student to experience learning loss over the summer but then return to the same reading level by the time they are assessed in November.

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<sup>1</sup>[https://www.philasd.org/research/wp-content/uploads/sites/90/2019/08/K-2-Summer-Learning-Loss-2015-16-to-2017-18-Issue-Brief-July-2019\\_revised-Aug-2019.pdf](https://www.philasd.org/research/wp-content/uploads/sites/90/2019/08/K-2-Summer-Learning-Loss-2015-16-to-2017-18-Issue-Brief-July-2019_revised-Aug-2019.pdf)

<sup>2</sup>Smith, M., & Brewer, D. (2007). Stop Summer Academic Loss: An Education Policy Priority. Grade Level Reading.

Figure 1. Timeline of Assessment Periods



## Research Questions

In this analysis, the Office of Research and Evaluation (ORE) expands on the previous three-year brief to include an additional year of data (June 2019 to November 2019). ORE also analyzed additional data to evaluate any demographic and/or geographic trends across four years; these areas of inquiry are reflected in the updated and expanded research questions below.

1. What changes (if any) in independent reading levels did K-2 students experience between the Quarter 4 (June) assessment and Quarter 1 (November) assessment across four years?
2. Are there trends based on grade level, student demographics, or reading level tier?
3. In which zip codes do K-2 students who experienced a decline or no change between the Quarter 4 (June) assessment and Quarter 1 (November) reside?

Similar to the previous analysis, the main limitation of this study is the timeline of assessments. There are five months between Quarter 4 (spring) and Quarter 1 (fall) assessment periods. Two of those five months are spent learning new instructional material. The timeline does not allow for a student assessment before the introduction of new material and thus does not reflect student performance at the start of the school year.

## Findings

**On average across four years, nearly two-thirds (61%) of K-2 students experienced a decrease or had no change in their independent reading levels from June to November.**

When examining the four years of June to November data, ORE found that 22% of K-2 students experienced a decrease in their independent reading levels, and 39% of K-2 students had no change in their reading levels (Table 1). Given the timeline of assessments, the students with no change in their reading levels could have experienced summer learning loss but regained levels after being in school for two months.

From June 2019 to November 2019, a smaller percentage of K-2 students experienced a decrease in their independent reading levels (20%) when compared to the previous time periods.

The smallest percentage of students experienced a decrease in their reading level from June-November 2019 compared to the prior three years. There was a four-point decrease in the percentage of students who experienced a decrease in reading level from June-November 2019(20%) compared to June-November 2018 (24%).

However, a larger percentage of K-2 students had no change in their independent reading levels (40%) from June-November 2019 when compared to the previous time periods (Table 1).

Table 1. A smaller percentage of students experienced a decrease in independent reading levels from June 2019 to November 2019 compared to the same five-month period in other years

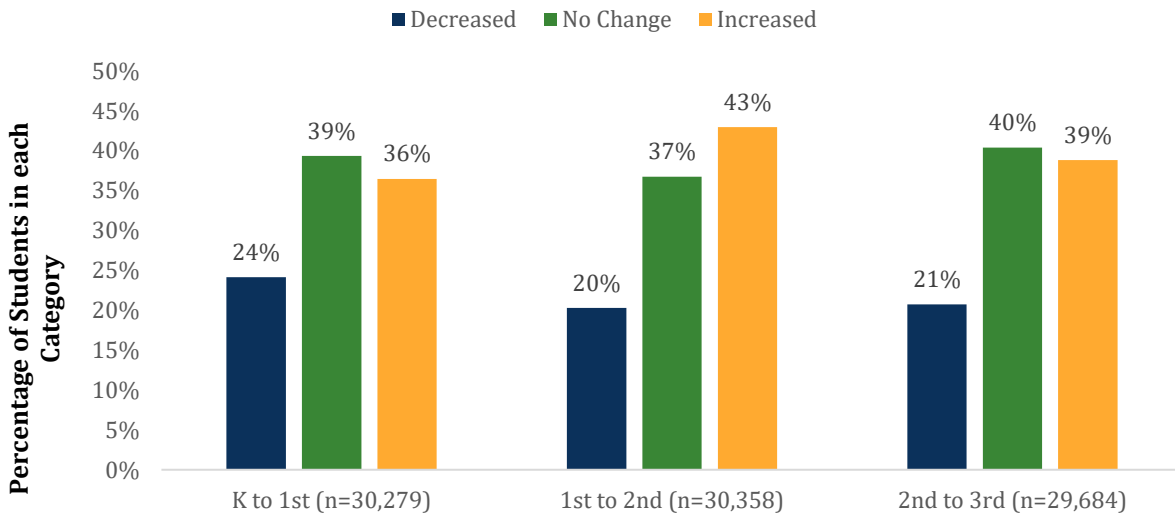
Time Period	Number of K-2 students in sample	Change from June to November		
		Percentage of students whose reading level decreased	Percentage of students with no change in reading level	Percentage of students whose reading level increased
June 2016 – November 2016	21,686	21%	39%	41%
June 2017 – November 2017	21,031	22%	37%	40%
June 2018 – November 2018	22,894	24%	39%	37%
June 2019- November 2019	24,710	20%	40%	40%
<b>Four-year average</b>	<b>90,321</b>	<b>22%</b>	<b>39%</b>	<b>39%</b>

Source: Qlikdev L1\_Reading\_Level\_Details [v1.0.0,Aug2019,1-30-2020]. Data pulled on Jan 30, 2020.

During the four-year study period, “summer” learning loss was highest between kindergarten and 1<sup>st</sup> grade.

On average across the four-year study period, a quarter (24%) of kindergarten students experienced a decrease in their independent reading levels between June of their kindergarten year and November of first grade (Figure 2). Approximately one-fifth of students experienced a decrease between June of first grade and November of second grade (20%) and between June of second grade and November of third grade (21%).

Figure 2. On average across four years, a higher percentage of students experienced a decrease in independent reading levels between kindergarten and first grade compared to transitions between later grades



**Source:** Qlikdev L1\_Reading\_Level\_Details [v1.0.0,Aug2019,1-30-2020].Data pulled on Jan 30,2020.

**How to read this figure:** This chart compares the percentage of students who experienced a decrease, no change, or an increase in their independent reading levels by the time period between each grade level over four years.

**During the four-year study period, a greater percentage of Hispanic/Latino and Black/African American students experienced a decrease in their reading levels compared to students of other races/ethnicities.**

A smaller percentage of White and Asian students experienced a decrease in their independent reading levels (15%) compared to Black/African American and Hispanic/Latino students (24% and 25%, respectively; see Table 2).

Table 2. Hispanic/Latino students had the highest percentage of students experience a decrease in their independent reading levels across four years

Race/Ethnicity	Number of K-2 students in sample (a)	Average change from June to November across the four-year study period		
		Percentage of students whose reading level decreased (b)	Percentage of students with no change in reading level (c)	Percentage of students whose reading level increased (d)
White	14,893	15%	39%	46%
Asian	7,639	15%	40%	45%
Multi-Racial/Other	6,259	19%	38%	42%
Black/African American	39,782	24%	38%	38%
Hispanic/Latino	21,467	25%	40%	35%

Source: Qlikdev L1\_Reading\_Level\_Details [v1.0.0, Aug 2019, 1-30-2020]. Data pulled on Jan 30, 2020.

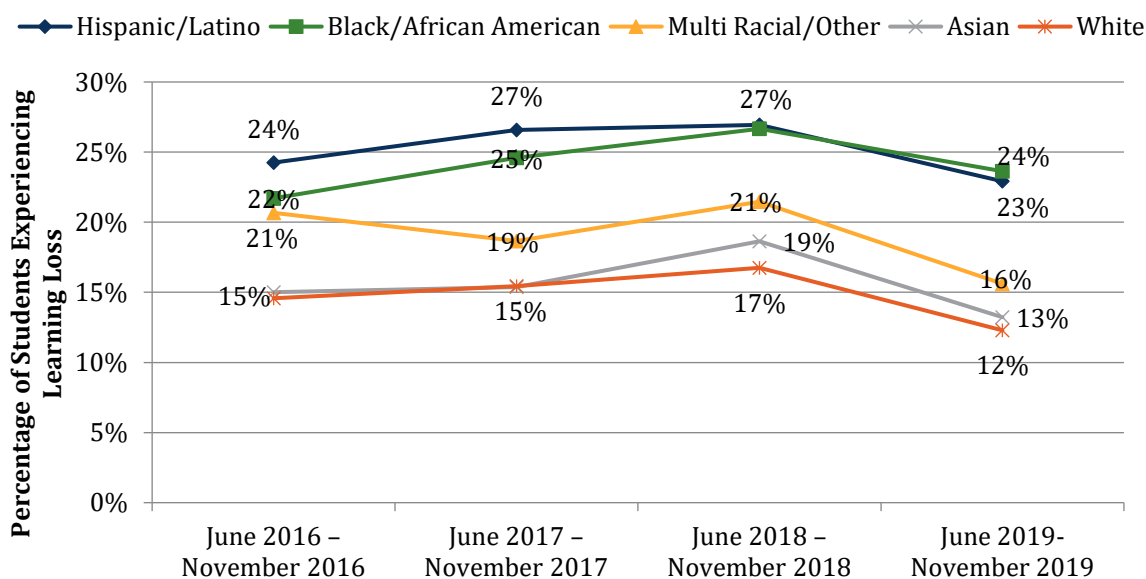
**How to read this table:** The rows display the number of students of each race/ethnicity in the sample (a) and the percentage of students in that racial/ethnic subgroup who experienced a decrease, no change, or an increase in their independent reading levels (columns b through d).

**Comparing “summer” 2018 and “summer” 2019, we found that there was a reduction across all races and ethnicities in the percentage of K-2 students who experienced a decrease in their independent reading levels.**

Multi-racial K-2 students had the largest reduction in the percentage of students experiencing a decrease during this time period (from 21% to 16%, a 5-point difference; see Figure 3).

Black/African American K-2 students had the smallest reduction between these two time periods (3 percentage points). For more information on the percentage of K-2 students who experienced a decrease, no change, or an increase in their independent reading levels by year, see Table A1 in the Appendix.

Figure 3. Hispanic/Latino and Black/African American students had the highest percentage of K-2 students who experienced a decrease in their independent reading levels across four years



**How to read this figure:** This chart compares the percentage of students who experienced a decrease in their independent reading levels by race/ethnicity over four years. The higher the percentage, the higher the number of students in that subgroup who experienced a decrease in their reading performance within that time period.

**During the four-year study period, a higher percentage of economically disadvantaged students, English learners, and students with IEPs experienced a decrease in their independent reading levels compared to their peers.**

On average, 62% of economically disadvantaged<sup>3</sup> K-2 students experienced a decrease or no change in independent reading levels, compared to 55% of students who were not economically disadvantaged. Of the students classified as English Learners (ELs), 65% experienced a decrease or no change in their reading levels compared to 60% of non-English Learners. Similarly, 65% of students with IEPs experienced a decrease or no change in independent reading levels, compared to 61% of general education students.

<sup>3</sup>“Economically Disadvantaged” refers to students who are eligible, without being subject to further verification, for participation in SNAP, TANF, or other social service programs. The percentage of students who participate in free or reduced price lunch (“universal feeding”) is based on the Community Eligibility Provision (CEP), which is the percentage of students eligible for free meals (i.e., students who either participate in SNAP, TANF, or other social service programs, or who are eligible for those services) multiplied by a factor of 1.6 and capped at 100%.

Table 3. Across four years, a higher percentage of economically disadvantaged students, English Learners, and students with IEPs experienced decreases in their independent reading levels compared to their peers

	<b>Economically Disadvantaged</b> (n=64,322)	<b>Not Economically Disadvantaged</b> (n=25,999)	<b>English Learners</b> (n=11,643)	<b>Non-English Learners</b> (n=78,678)	<b>Students with IEPs<sup>a</sup></b> (n=7,015)	<b>Students without IEPs</b> (n=83,306)
<b>Decreased</b>	23%	17%	24%	22%	24%	22%
<b>No Change</b>	39%	38%	41%	38%	41%	39%
<b>Increased</b>	37%	44%	35%	40%	35%	40%

<sup>a</sup>Students with IEPs may have more than one status. In this sample, 10 students had a secondary gifted status.

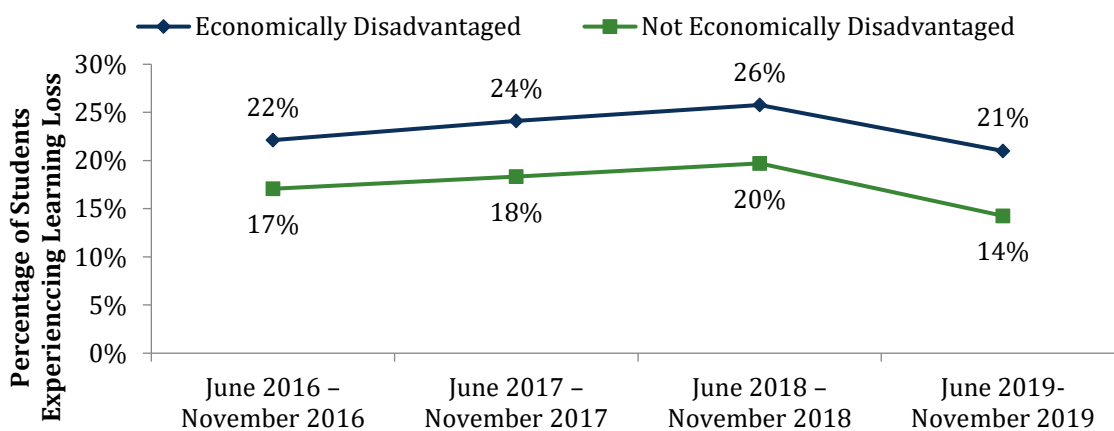
**Source:** Qlikdev L1\_Reading\_Level\_Details [v1.0.0, Aug 2019, 1-30-2020]. Data pulled on Jan 30, 2020.

**How to read this table:** Each column shows the percentage of that student subgroup (economically disadvantaged, not economically disadvantaged, English Learners, non-English Learners, students with IEPs, and students without IEPs) who experienced a decrease, no change, or an increase in their independent reading levels. Please note that, due to rounding, columns may not sum to 100.

### Over the course of the four-year study period, the disparity between the “summer” performance of K-2 students who are economically disadvantaged, English Learners, or have IEPs has grown.

The percentage of non-economically disadvantaged students who experienced a decrease declined by three percentage points between 2016 and 2019, while the percentage of economically disadvantaged students experiencing a decrease decreased by one percentage point (Figure 4). For more information on the percentage of K-2 students who experienced a decrease, no change, or an increase in their independent reading levels by year, see Table A2 in the Appendix.

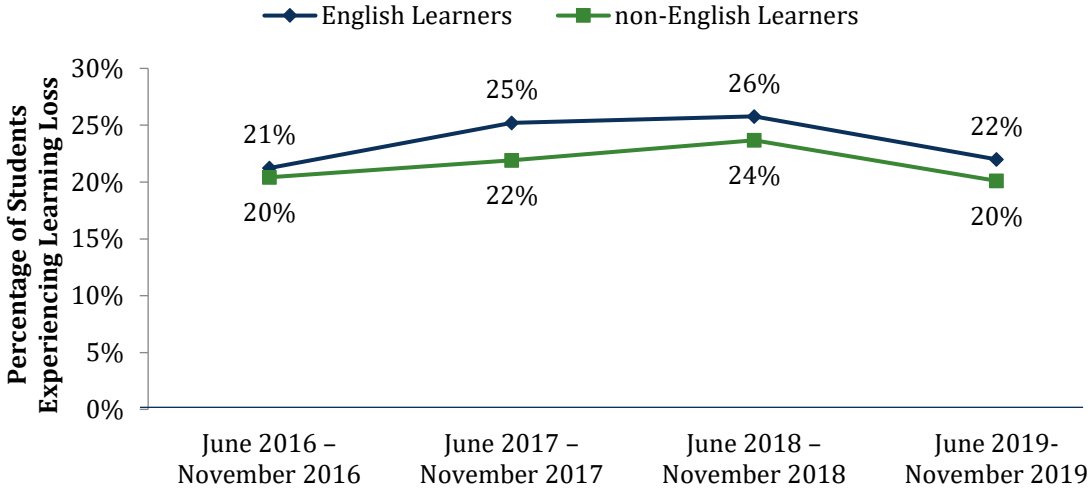
Figure 4. Economically disadvantaged K-2 student trends in “summer” learning loss across four years



**How to read this figure:** This chart compares the percentage of students who experienced a decrease in their independent reading levels by socio-economic status over four years. The higher the percentage, the higher the number of students in that group whose reading performance decreased within that time period. See Table 3 for counts of students represented in this graph.

Similar patterns exist for English Learners and non-English Learners. While the percentage of non-English Learners who experienced a decrease remained unchanged between 2016 and 2019, the percentage of English Learners who experienced a decrease increased by one point (Figure 5). For more information about the percentage of K-2 students who experienced a decrease, no change, or an increase in their independent reading levels by year, see Table A3 in the Appendix.

Figure 5. K-2 English Learner trends in “summer” learning loss across four years

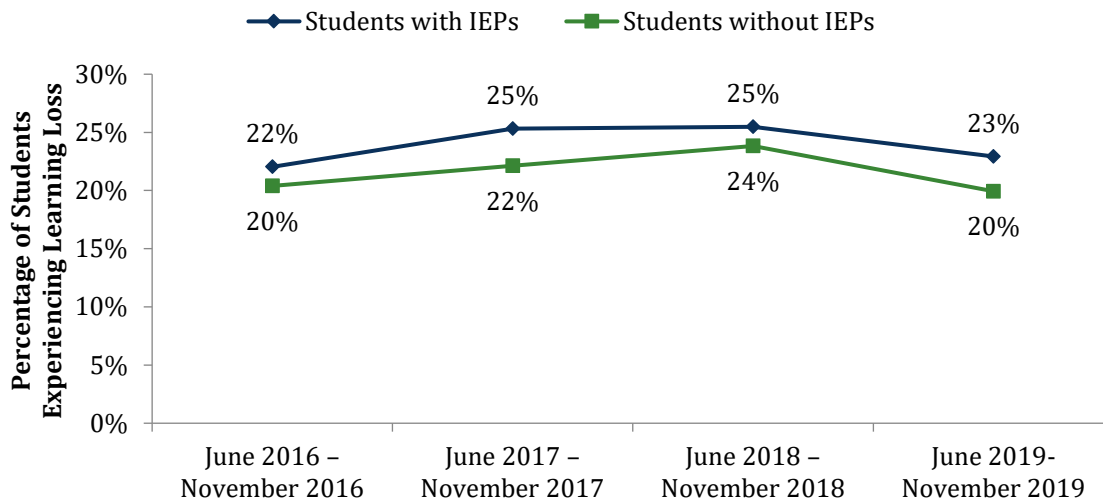


**How to read this figure:** This chart compares the percentage of students who experienced a decrease in their independent reading levels by English Learner status over four years. The higher the percentage, the higher the number of students in that group whose reading performance decreased within that time period. See Table 3 for counts of students represented in this graph.

The difference between students with IEPs and students without IEPs was similar to the difference between English Learners and non-English Learners. While the percentage of students without IEPs who experienced a decrease remained unchanged between 2016 and 2019, the percentage of students with IEPs who experienced a decrease increased by one percentage point (Figure 6). For a breakdown of the changes in independent reading levels by year, see Table A4 in the Appendix.



Figure 6. Trends in “summer” learning loss across four years for K-2 students with IEPs



**How to read this figure:** This chart compares the percentage of students who experienced a decrease in their independent reading levels by special education status over four years. The higher the percentage, the higher the number of students in that subgroup who experienced a decrease in their reading performance within that time period.

### Student “summer” learning loss varies according to zip code.

On average, over the four-year study period, 61% of K-2 students experienced a decrease or no change in their independent reading levels between Quarter 4 and Quarter 1 each year (Table 1). To examine whether these changes were more prevalent in certain areas of the city, ORE used K-2 student address information (n=89,819) to analyze learning loss by zip code of residence. The following maps summarize zip code-level data and trends.<sup>4</sup>

Mapping learning loss data to student zip codes is important since “summer” learning loss primarily occurs during the months when students are not in school and many students attend schools outside of their zoned catchment area/neighborhood. The trends revealed on the zip code maps help us better understand neighborhoods where students may be most at risk of losing literacy skills in the summer and can provide us with information to inform decisions about where to place supportive programming during summer months.

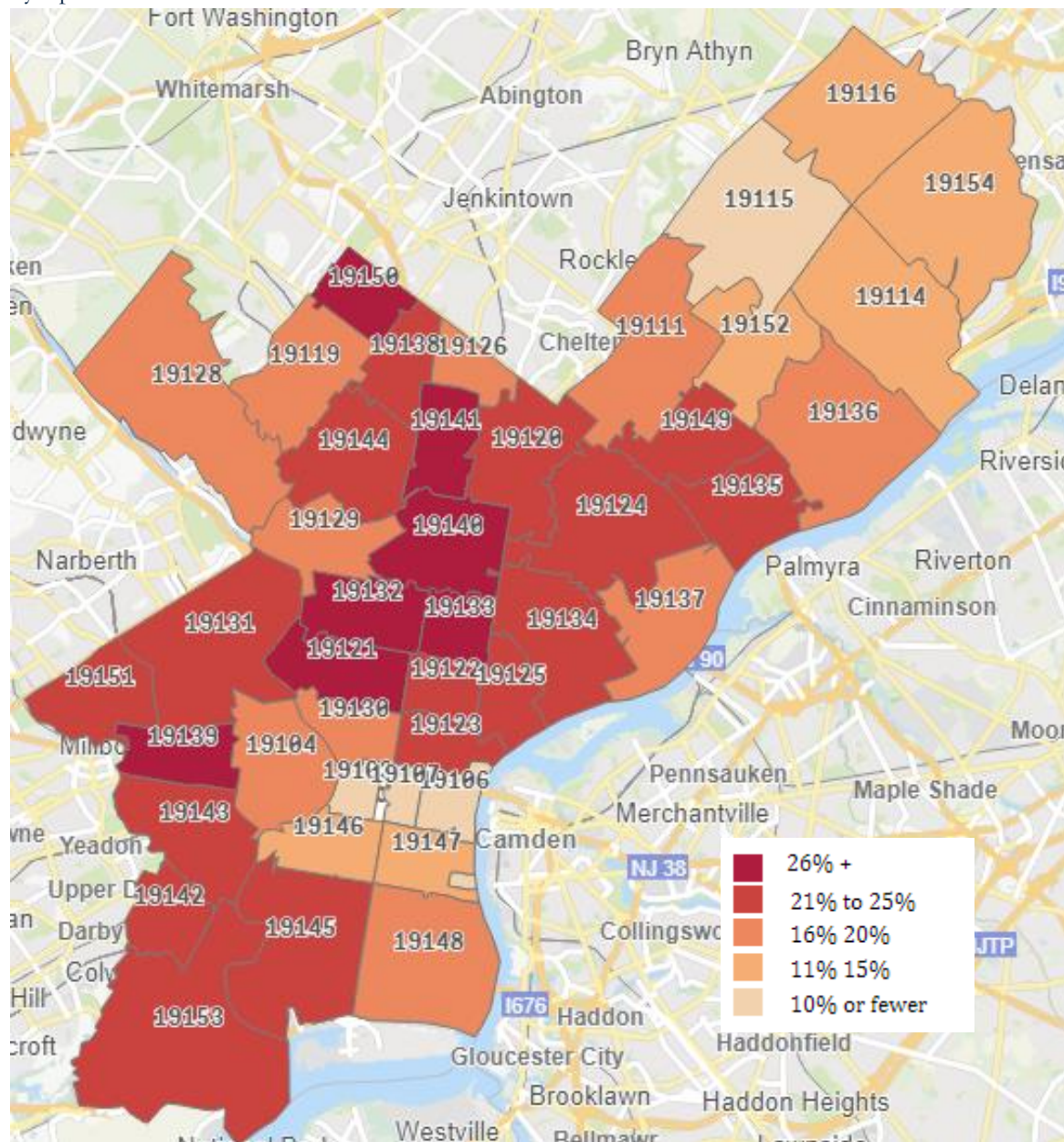
### Across four years, there were seven zip codes in which more than one-quarter of students experienced a decrease in their reading levels between June and November.

Of these seven zip codes (Figure 8) five of the zip codes are located in North Philadelphia (19141, 19140, 19133, 19132, and 19121), one is located in West Philadelphia (19139), and one is located in North West Philadelphia (19150). On average, nearly one-third of students (31%) living in zip

<sup>4</sup> See Appendix A for a table describing the percentage of K-2 students who experienced a decrease or no change in their independent reading level by zip code.

code 19121 experienced a decrease in their independent reading levels across four years. Zip code 19121 encompasses the central North Philadelphia neighborhoods of Brewerytown and Sharswood. Within the surrounding zip codes of 19132, 19133, 19140, and 19141, an average of 29% of K-2 students experienced a decrease in their independent reading level. In the West Philadelphia zip code of 19139, an average of 27% of K-2 students experienced a decrease in their independent reading level (See Appendix Table A5).

Figure 7. Percentage of students who experienced a decrease in independent reading levels across four years by zip code



**Source:** Qlikdev L1\_Reading\_Level\_Details [v1.0.0, Aug 2019, 1-30-2020], data pulled on Jan 30, 2020.

**Note:** Five zip codes were removed from the analysis because they were non-residential or were home to fewer than 100 K-2 students over the study period: 19102, 10109, 19112, 19118, and 19127.

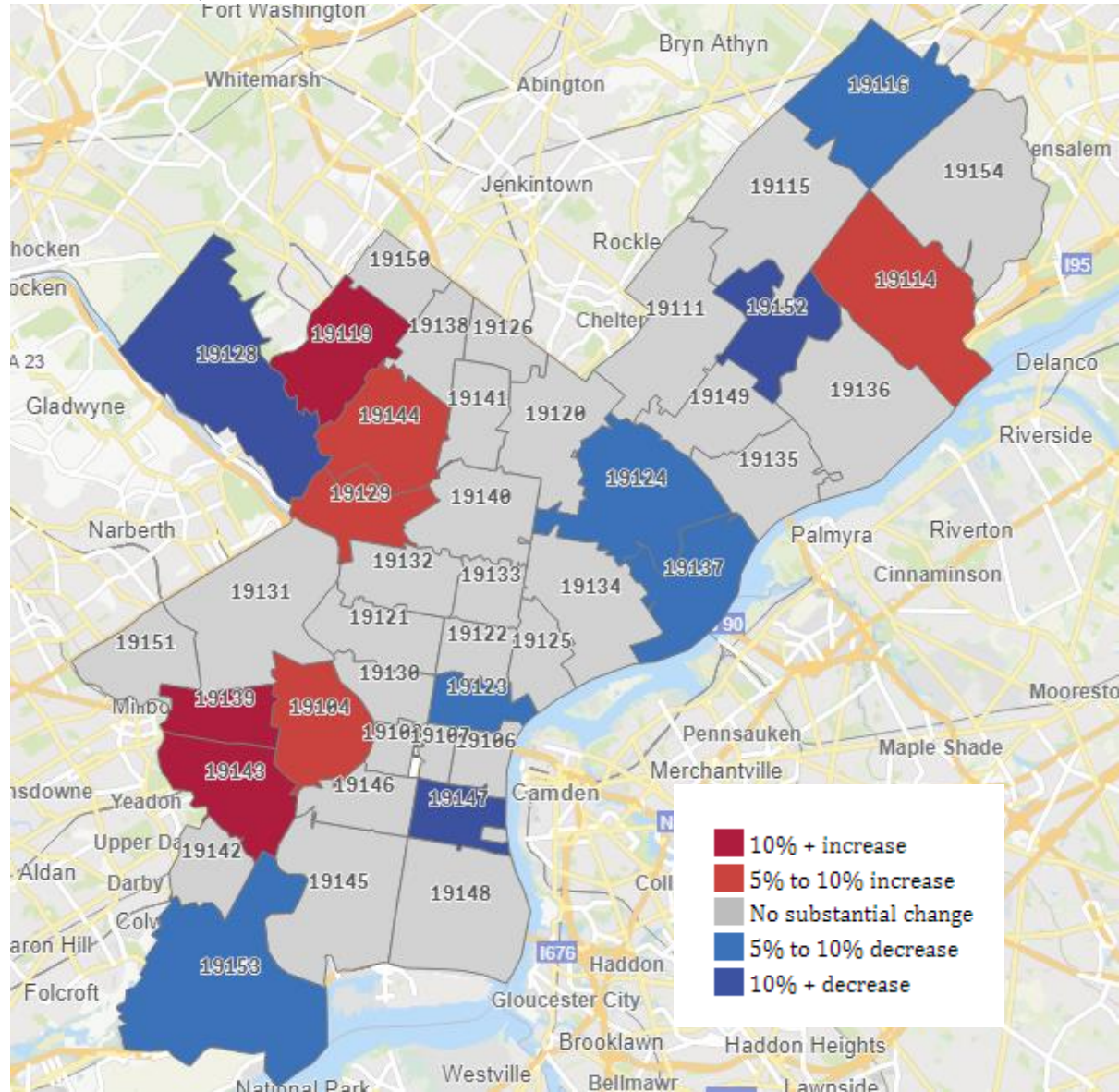
*There were three zip codes where the percentage of students who experienced a decrease in their independent reading level increased by at least 10 percentage points between 2016 and 2019.*

Two of these zip codes, 19139 and 19143, are located in West Philadelphia and include the neighborhoods of Cedar Park, Angora, Cobbs Creek, and Kingsessing, while the third zip-code (19119) is located in Northwest Philadelphia and encompasses the neighborhood of Mt. Airy (Figure 10). The highest percentage point increase occurred in the 19119 zip code. Between summer 2016 and summer 2019, the percentage of K-2 students in the 19119 zip code who experienced a decrease in their independent reading levels increased by 12 percentage points (9% to 21%).

**Conversely, there were three zip codes where the percentage of students who experienced “summer” learning loss decreased by 10 percentage points or more between “summer” 2016 and 2019.**

These zip codes--19128, 19137, and 19152--are scattered across Philadelphia. The zip code of 19128 encompasses the Roxborough-Manayunk neighborhood, and zip code 19137 is located in South Philadelphia and includes the neighborhoods of Queen Village, Bella Vista, and Passyunk Square. The third zip code, 19152, is located in the northeast and encompasses the neighborhoods of Lexington Park and part of Rhawnhurst. Zip code 19128 saw the most progress in decreasing the percentage of K-2 students who experienced “summer” learning loss over the four-year study period, reducing the percentage of students who experienced loss from 22% in 2016 to 9% in 2019, a 13-point decrease.

Figure 9. Change in percentage of K-2 students who experienced a decrease in their independent reading levels across four years



**Notes:** No substantial change indicates a change of +/-4 percentage points or less in these zip codes. Five zip codes were removed from the analysis because they were non-residential or were home to fewer than 100 K-2 students over the study period: 19102, 10109, 19112, 19118, and 19127.

## Conclusion

We calculated “summer” learning loss for K-2 students by examining the changes in their independent reading levels from June to November. Although the first two months of instruction of the new school year may help K-2 students recover some reading loss, we found that across the four-year study period, 22% of students had lower independent reading levels in November than they did in June of the previous school year: overall, 61% of students experienced either a decrease (22%) or no change (39%) in their reading level. Positively, “summer” 2019, the most recent time period in this study, had the lowest percentage of students (20%) who experienced learning loss compared to the three prior years.

On average across four years, a higher percentage of students experienced “summer” learning loss between kindergarten and first grade compared to between other grades. In addition, a disproportionate percentage of Hispanic/Latino students, Black/African American students, and students who were English Learners, had IEPs, or were economically disadvantaged experienced summer learning loss compared to their peers. However, from 2018 to 2019, there was a reduction in the percentage of K-2 students who experienced a decrease in their independent reading levels for all races/ethnicities.

Across the four-year study period, there was little change in the disparities between English Learners and non-English Learners and students with IEPs and students without IEPs. However, the disparity between economically disadvantaged K-2 students who experienced a decrease or no change in their independent reading level and their non-economically disadvantaged peers has grown.

Finally, there were differences in the percentage of students experiencing “summer” learning loss between zip codes. The zip codes with the highest percentages of K-2 students who experienced “summer” learning loss, on average across four years, were concentrated in North and West Philadelphia. Across the four-year study period, three zip codes experienced a substantial increase (10%+) in the percentage of K-2 students who experienced “summer” learning loss. Most notably, the zip code 19128 saw a 12 percentage-point increase in K-2 students who experienced “summer” learning loss. Because students are likely spending the bulk of learning time at home during summer months, zip code-related findings are useful when determining the neighborhoods that may be most in need of summer learning programs and supportive services.

## Appendix: “Summer” Learning Loss Details by Year, Zip Code

Table A1. Percentage of K-2 students in sample whose reading levels decreased, did not change, or increased between June of one school year and November of the next, by race/ethnicity and year

	K-2 students in sample (a)	Percentage of students whose reading level decreased (b)	Percentage of students with no change in reading level (c)	Percentage of students whose reading level increased (d)
June 2016 – November 2016				
Asian	1,747	15%	39%	46%
Black/African American	9,698	22%	38%	41%
Hispanic/Latino	4,884	24%	39%	36%
Multi-Racial/Other	1,853	21%	39%	40%
White	3,419	15%	41%	45%
June 2017 – November 2017				
Asian	1,744	15%	39%	45%
Black/African American	9,305	25%	36%	39%
Hispanic/Latino	4,818	27%	38%	35%
Multi-Racial/Other	1,746	19%	38%	44%
White	3,353	15%	38%	46%
June 2018 – November 2018				
Asian	1,910	19%	40%	41%
Black/African American	9,943	27%	38%	35%
Hispanic/Latino	5,386	27%	40%	33%
Multi-Racial/Other	1,584	21%	39%	39%
White	4,012	17%	41%	42%
June 2019– November 2019				
Asian	2,238	13%	41%	46%
Black/African American	10,836	24%	39%	37%
Hispanic/Latino	6,379	23%	41%	36%
Multi-Racial/Other	1,076	16%	37%	48%
White	4,109	12%	38%	50%

**Source:** Qlikdev L1\_Reading\_Level\_Details [v1.0.0,Aug2019,1-30-2020].Data pulled on Jan 30, 2020.

**How to read this table:** The rows display the number of students of each race/ethnicity in the sample (a) and the percentage of students in that racial/ethnic subgroup who experienced a decrease, no change, or an increase in their independent reading levels (columns b through d).

Table A2. Percentage of K-2 students in sample whose reading levels decreased, did not change, or increased between June of one school year and November of the next, by economic disadvantage status and year

	K-2 students in sample (a)	Percentage of students whose reading level decreased (b)	Percentage of students with no change in reading level (c)	Percentage of students whose reading level increased (d)
June 2016 – November 2016				
Economically Disadvantaged	14,834	22%	39%	39%
Not Economically Disadvantaged	6,852	17%	39%	44%
June 2017 – November 2017				
Economically Disadvantaged	14,540	24%	38%	38%
Not Economically Disadvantaged	6,491	18%	37%	45%
June 2018 – November 2018				
Economically Disadvantaged	15,959	26%	39%	35%
Not Economically Disadvantaged	6,935	20%	39%	41%
June 2019–November 2019				
Economically Disadvantaged	18,989	21%	40%	38%
Not Economically Disadvantaged	5,721	14%	37%	48%

**Source:** Qlikdev L1\_Reading\_Level\_Details [v1.0.0,Aug2019,1-30-2020].Data pulled on Jan 30, 2020.

**How to read this table:** This table allows you to compare the percentage of economically disadvantaged and non-economically disadvantaged students who experienced a decrease, no change, or an increase in their independent reading levels (columns b through d).

Table A3. Percentage of K-2 students in sample whose reading levels decreased, did not change, or increased between June of one school year and November of the next, by English Learner status and year

	K-2 students in sample (a)	Percentage of students whose reading level decreased (b)	Percentage of students with no change in reading level (c)	Percentage of students whose reading level increased (d)
June 2016 – November 2016				
English Learners	2,647	21%	40%	38%
Non-English Learners	19,039	20%	39%	41%
June 2017 – November 2017				
English Learners	2,717	25%	40%	35%
Non-English Learners	18,314	22%	37%	41%
June 2018 – November 2018				
English Learners	2,859	26%	44%	31%
Non-English Learners	20,035	24%	39%	37%
June 2019–November 2019				
English Learners	3,420	21%	42%	36%
Non-English Learners	21,290	20%	39%	41%

**Source:** Qlikdev L1\_Reading\_Level\_Details [v1.0.0, Aug 2019, 1-30-2020]. Data pulled on Jan 30, 2020.

**How to read this table:** This table allows you to compare the percentage of English Learners and non-English Learners who experienced a decrease, no change, or an increase in their independent reading levels (columns b through d).

Table A4. Percentage of K-2 students in sample whose reading levels decreased, did not change, or increased between June of one school year and November of the next, by special education status and year

	K-2 students in sample (a)	Percentage of students whose reading level decreased (b)	Percentage of students with no change in reading level (c)	Percentage of students whose reading level increased (d)
June 2016 – November 2016				
Students with IEPs	1,629	22%	41%	37%
Students without IEPs	20,055	20%	39%	41%
June 2017 – November 2017				
Students with IEPs	1,363	25%	41%	34%
Students without IEPs	19,666	22%	37%	41%
June 2018 – November 2018				
Students with IEPs	1,519	25%	42%	32%
Students without IEPs	21,373	24%	39%	37%
June 2019–November 2019				
Students with IEPs	2,495	23%	41%	36%
Students without IEPs	22,211	20%	39%	41%

**Source:** Qlikdev L1\_Reading\_Level\_Details [v1.0.0, Aug 2019, 1-30-2020]. Data pulled on Jan 30, 2020.

**How to read this table:** This table allows you to compare the percentage of students with and without IEPs who experienced a decrease, no change, or an increase in their independent reading levels (columns b through d).



Table A5. Average percentage of K-2 students who experienced “summer” (June to November) learning loss across four years, by zip code

<b>Zip Code</b>	<b>Number of K-2 students in the sample (4-year total)</b>	<b>Percentage of K-2 students whose reading level decreased</b>	<b>Number of K-2 students whose reading level decreased or stayed the same</b>	<b>Percentage of K-2 students whose reading level decreased or stayed the same</b>
19103	310	1%	94	30%
19104	1,361	20%	762	56%
19106	186	9%	92	49%
19107	578	10%	276	48%
19111	4,695	17%	2,593	55%
19114	1,451	14%	731	50%
19115	2,487	11%	1,497	60%
19116	2,068	12%	1,159	56%
19119	1,166	17%	614	53%
19120	6,751	23%	4,042	60%
19121	1,941	31%	1,269	65%
19122	1,322	24%	839	63%
19123	577	25%	354	61%
19124	4,235	26%	2,763	65%
19125	1,309	23%	853	65%
19126	962	20%	555	58%
19128	902	16%	494	55%
19129	259	17%	140	54%
19130	635	21%	366	58%
19131	964	23%	513	53%
19132	1,961	29%	1,327	68%
19133	2,708	29%	1,799	66%
19134	6,706	26%	4,259	64%
19135	2,493	23%	1,589	64%
19136	2,211	18%	1,293	58%
19137	713	17%	422	59%
19138	1,764	23%	1,067	60%
19139	1,906	27%	1,181	62%
19140	4,554	29%	3,231	71%
19141	1,768	29%	1,174	66%
19142	2,267	24%	1,456	64%
19143	2,687	25%	1,666	62%
19144	1,829	24%	1,115	61%
19145	2,054	22%	1,192	58%

Zip Code	Number of K-2 students in the sample (4-year total)	Percentage of K-2 students whose reading level decreased	Number of K-2 students whose reading level decreased or stayed the same	Percentage of K-2 students whose reading level decreased or stayed the same
19146	1,518	14%	733	48%
19147	2,434	12%	1,281	53%
19148	3,500	18%	2,086	60%
19149	6,026	22%	3,836	64%
19150	1,075	26%	693	64%
19151	1,021	22%	558	55%
19152	2,298	14%	1,151	50%
19153	446	23%	263	59%
19154	1,721	15%	1,023	59%

**Source:** Qlikdev L1\_Reading\_Level\_Details [v1.0.0,Aug2019,1-30-2020], data pulled on Jan 30, 2020.

**Notes:** Five zip codes were removed from the analysis because they were non-residential or were home to fewer than 100 K-2 students over the study period: 19102, 10109, 19112, 19118, and 19127. The number of K-2 students in the sample (second column) is not a unique count of students. For example, a student who lived in the same zip code for three years while attending grades K-2 would be counted three times for that zip code. Similarly, a student who moved to a different zip code during their time in grades K-2 was counted each year according to their zip code for this analysis.

Table A6. Zip codes with substantial changes in the percentage of K-2 students experiencing “summer” (June to November) learning loss across four years

Zip Code	Percentage of K-2 students whose reading levels decreased between June 2016 and November 2016	Percentage of K-2 students whose reading levels decreased between June 2019 and November 2019	Percentage Point Change
<b>10% + increase in the percentage of students experiencing learning loss</b>			
19119	9%	21%	+12
19139	24%	34%	+10
19143	18%	28%	+10
<b>5% to 10% increase in the percentage of students experiencing learning loss</b>			
19129	9%	18%	+9
19144	20%	26%	+6
19104	15%	20%	+5
19114	9%	14%	+5
<b>5% to 10% decrease in the percentage of students experiencing learning loss</b>			
19116	15%	10%	-5
19123	25%	19%	-6
19153	24%	18%	-6
19124	28%	21%	-7
19137	19%	11%	-8
<b>10%+ decrease in the percentage of students experiencing learning loss</b>			
19147	17%	7%	-10
19152	22%	11%	-12
19128	22%	9%	-13

Source: Qlikdev L1\_Reading\_Level\_Details [v1.0.0, Aug 2019, 1-30-2020], data pulled on Jan 30, 2020.