

# Summer Learning Camp Enrollment, Attendance, and Achievement

## *Trends in Ten Tennessee Districts*

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### Introduction

In the summers of 2021 and 2022, every public school district in the state of Tennessee hosted summer learning camps (SLCs) for rising first through eighth graders as required under the 2021 Tennessee Learning Loss Remediation and Student Acceleration Act.<sup>1</sup> These SLCs offered multi-week academic programming designed in part to help students recover academically from schooling disruptions and learning loss caused by the COVID-19 pandemic. SLCs were typically hosted in district schools and taught by district educators, following a model of voluntary academic programs which prior research shows can support healthy development for young students.<sup>2</sup> The 2022 camps provide a preview of the potential outcomes and challenges of summer learning camps ahead of summer 2023, when attendance will become mandatory for rising fourth graders who score below a target threshold on the state third-grade reading achievement exam.<sup>3</sup>

The Tennessee Education Research Alliance (TERA) partnered with 10 Tennessee districts to evaluate the implementation and effectiveness of their 2022 summer learning camps. Partner districts include two large county systems with major urban centers, five county systems without major urban centers, and three municipal systems. Each partner district received district-specific reports and insights.

In this brief, we present aggregate findings from analysis of student enrollment rosters, attendance records, staff surveys, and student benchmark assessments. Eight of the ten districts administered staff surveys, and nine had complete enrollment and attendance data. The achievement analysis includes data from four districts who had similarly scaled pre- and post-test benchmark assessments that could be combined for aggregate analysis.

### Key Findings:

- *Lower-performing students were more likely to enroll in summer learning camps.*
- *Enrolled students attended an average of about two-thirds of days offered. Only 1 in 8 students attended 90% or more of days offered.*
- *Summer learning staff report positive experiences for themselves and their students, especially in elementary grades.*
- *Attendance in SLCs is associated with improved math performance in the fall, especially for elementary, non-White, and economically disadvantaged students.*





# ENROLLMENT

1

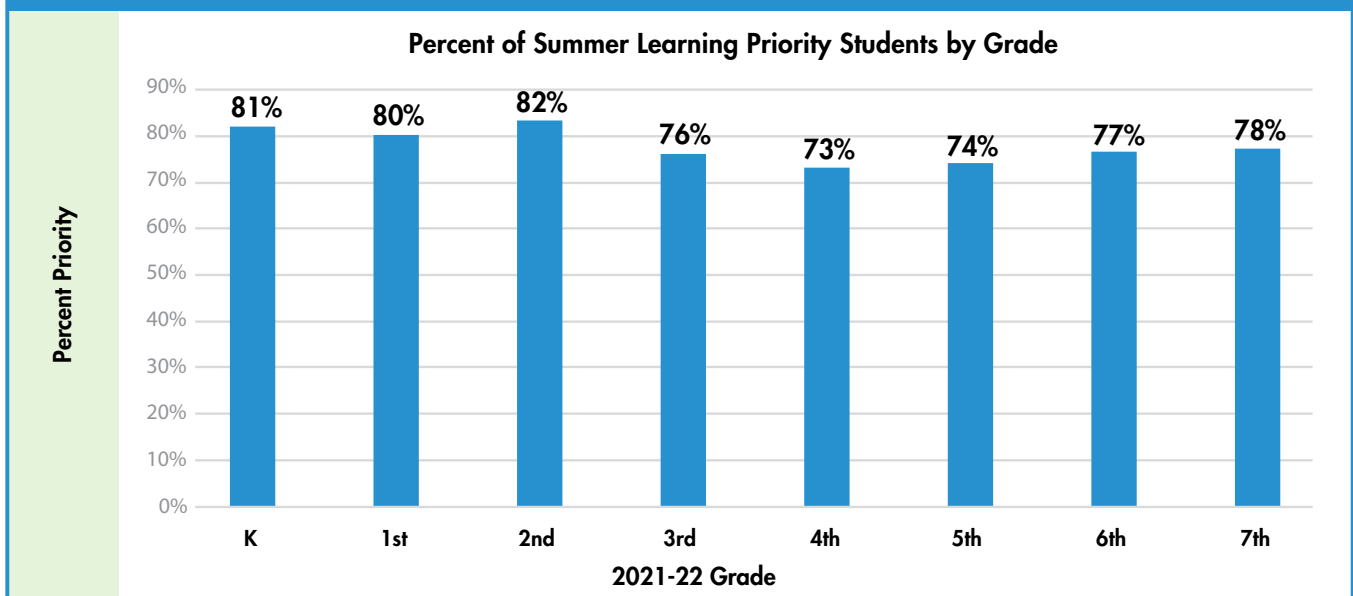
**Lower-performing students were more likely to enroll in summer learning camps.**

Summer Learning Camps were available for students entering first through eighth grades the following school year. State legislation mandates eligibility for what the legislation calls “Priority Students.” According to the law, this includes:

- 1 ***Students in tested grades (3-7) who score below proficiency cutoffs on either Math or English Language Arts (ELA) TNReady exams (or a district benchmark assessment)***
- 2 ***Students in untested grades (K-2) attending schools with school-level proficiency rates below 50% on either Math or ELA TNReady exams***
- 3 ***Economically disadvantaged (ED) students***

Based on these criteria, **most students in Tennessee were Summer Learning Priority Students** in 2022, and the same was true in our 10 partner districts. About 65% of students statewide, and 63% of students in our 10 partner districts, tested below proficiency cutoffs on TNReady.<sup>4</sup> Further, 85% of schools in Tennessee serving third through fifth graders had overall proficiency rates below 50% in either Math or ELA, making all K-2 students in those schools Summer Learning Priority Students; in our partner districts, 80% of schools met this criterion. Overall, 78% of rising first through eighth graders in our partner districts met at least one Priority Student criterion for guaranteed eligibility in their district’s 2022 SLC. As shown in Figure 1, the proportion of students meeting priority eligibility ranges between a low of 73% among fourth graders to a high of 82% among second graders.

**FIGURE 1: At least 73% of students in each grade were eligible for SLCs as Priority Students.**

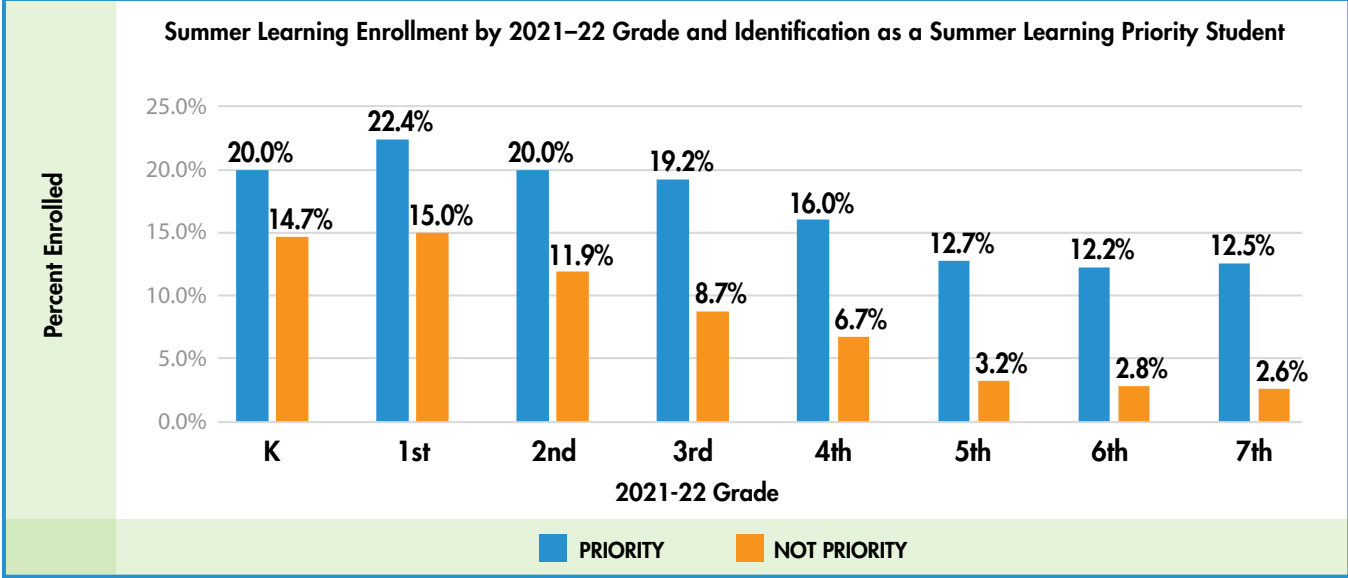




In our nine partner districts that provided complete enrollment data, **Summer Learning Priority Students were more likely to enroll in SLCs than their non-Priority peers within every grade** (see Figure 2).

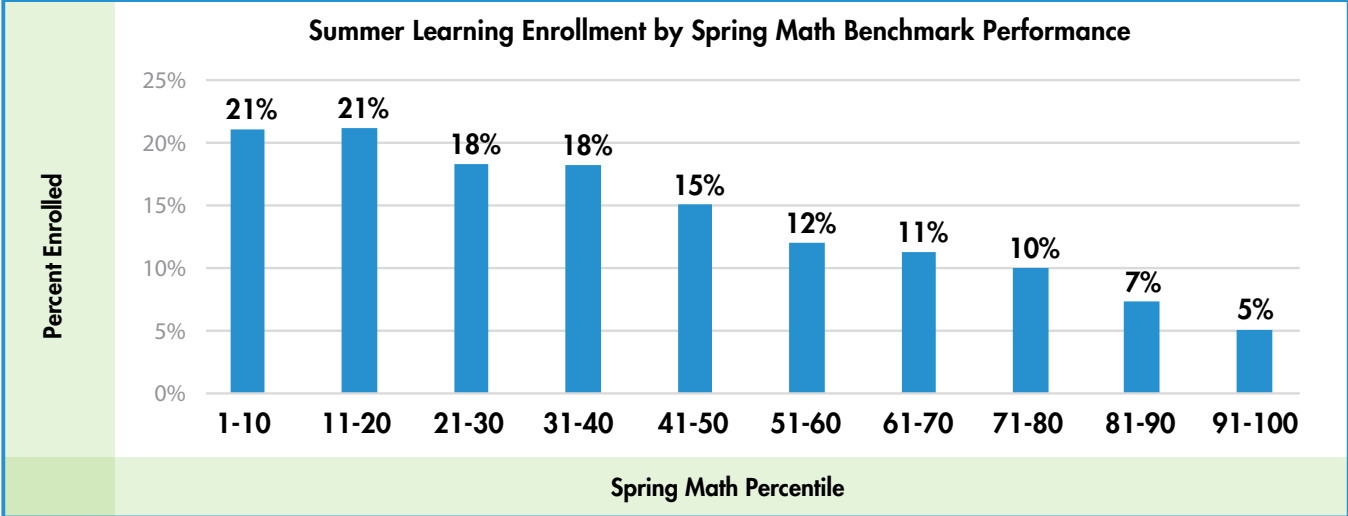
Summer Learning Priority Students were much more likely to enroll than non-Priority Students in grades 3 through 7, where the Priority Student definition was tied to individual assessments. Enrollment in SLCs was also higher among elementary school students than middle school students in each of the eight districts. As shown in Figure 2, about 20% of Priority Students in kindergarten through third grade enrolled in camps, compared to about 12% of Priority Students in grades 5 through 7.

**FIGURE 2: Elementary students were more likely than middle school students to enroll in SLCs.**



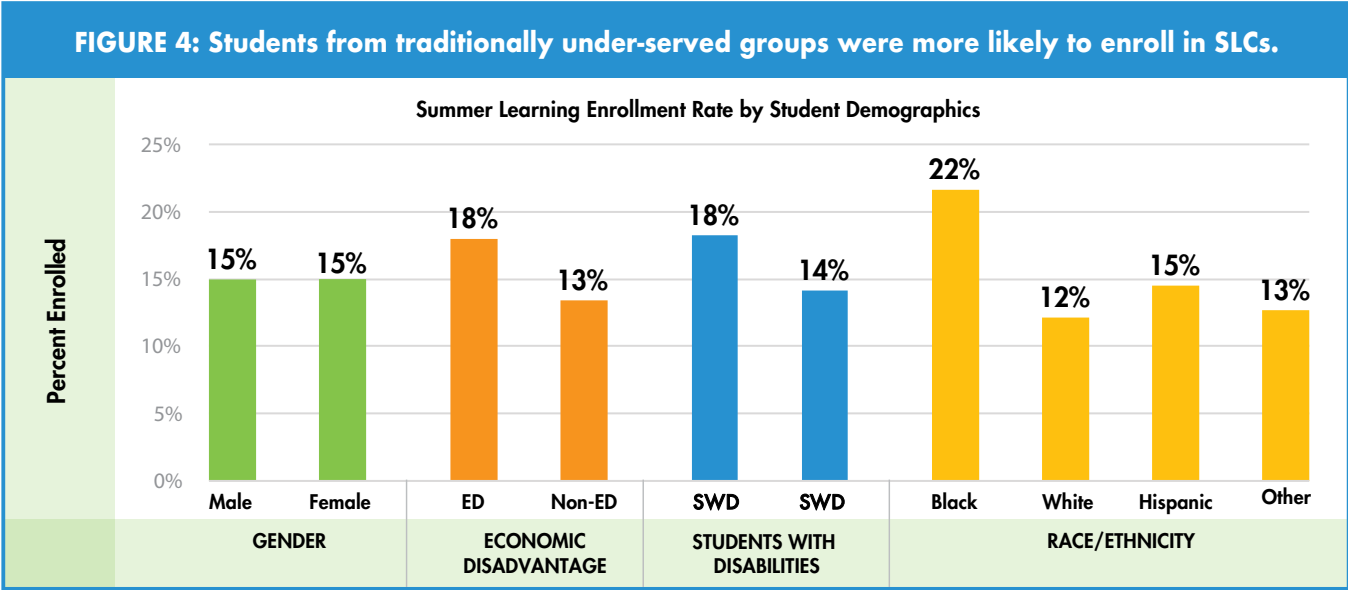
Most critically, in the four partner districts that provided spring benchmark achievement scores, **lower-performing students were more likely to enroll in SLCs**. Students performing at or below the 20th percentile nationally in Math enrolled at the highest rate (21%) while enrollment decreased successively across each higher performance range, down to just 5% of students at or above the 91st-percentile nationally.<sup>5</sup>

**FIGURE 3: Lower-performing students were more likely to enroll in SLCs.**

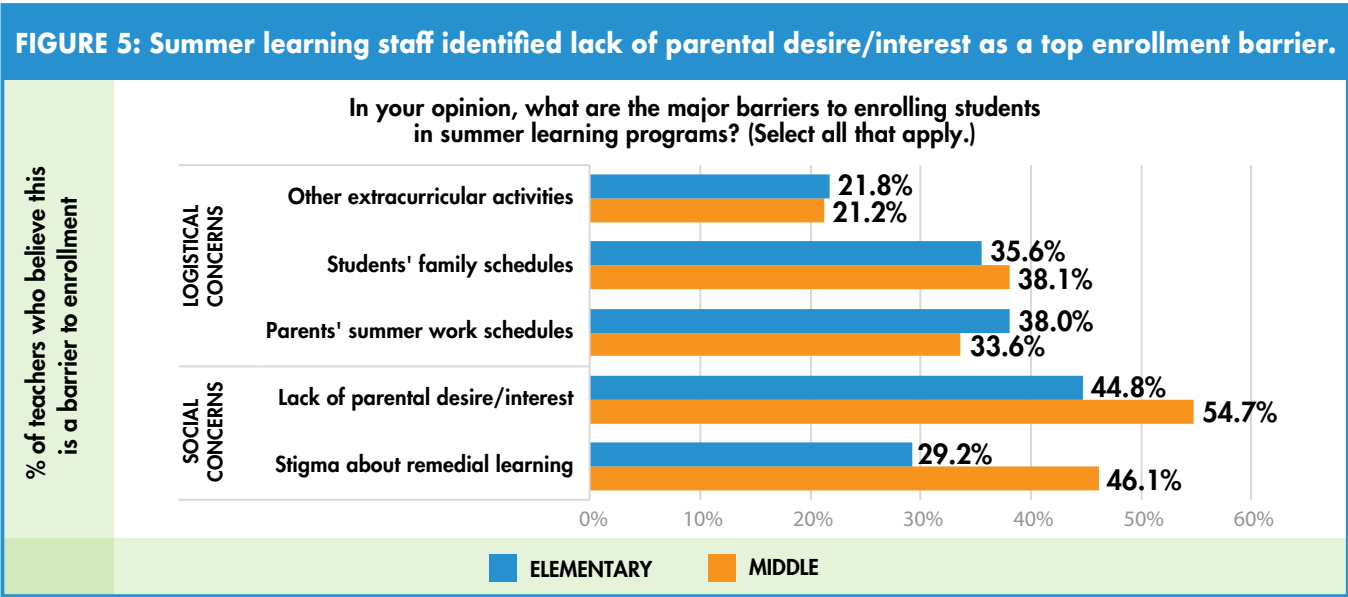




**Students from traditionally under-served groups were more likely to enroll in SLCs.** This is true both overall and when accounting for Priority status or spring benchmark performance. The largest enrollment differentials favored Black students (8.9 percentage points higher enrollment than non-Black), economically disadvantaged students (4.5 percentage points higher enrollment than non-ED), and special education students (3.9 percentage points higher enrollment than non-students with disabilities).



On summer learning staff surveys, which are described in more detail later in the brief, staff identified perceived barriers to getting students enrolled in SLCs. The most frequently-identified enrollment barriers fell into two categories—logistical and social concerns. **Logistical concerns were identified at a consistent rate across grade levels, but middle school staff identified social concerns as an enrollment barrier at a much higher rate than elementary staff.** For example, “lack of parental interest,” which we classify as a social concern, was the barrier most frequently identified by both elementary (45%) middle school (55%) staff. Another social concern, “stigma about remedial learning”, was the second-most cited barrier among middle school staff. Among elementary staff, “stigma about remedial learning” ranked behind logistical concerns such as parent’s work schedules (38%), and student’s family schedules (36%).





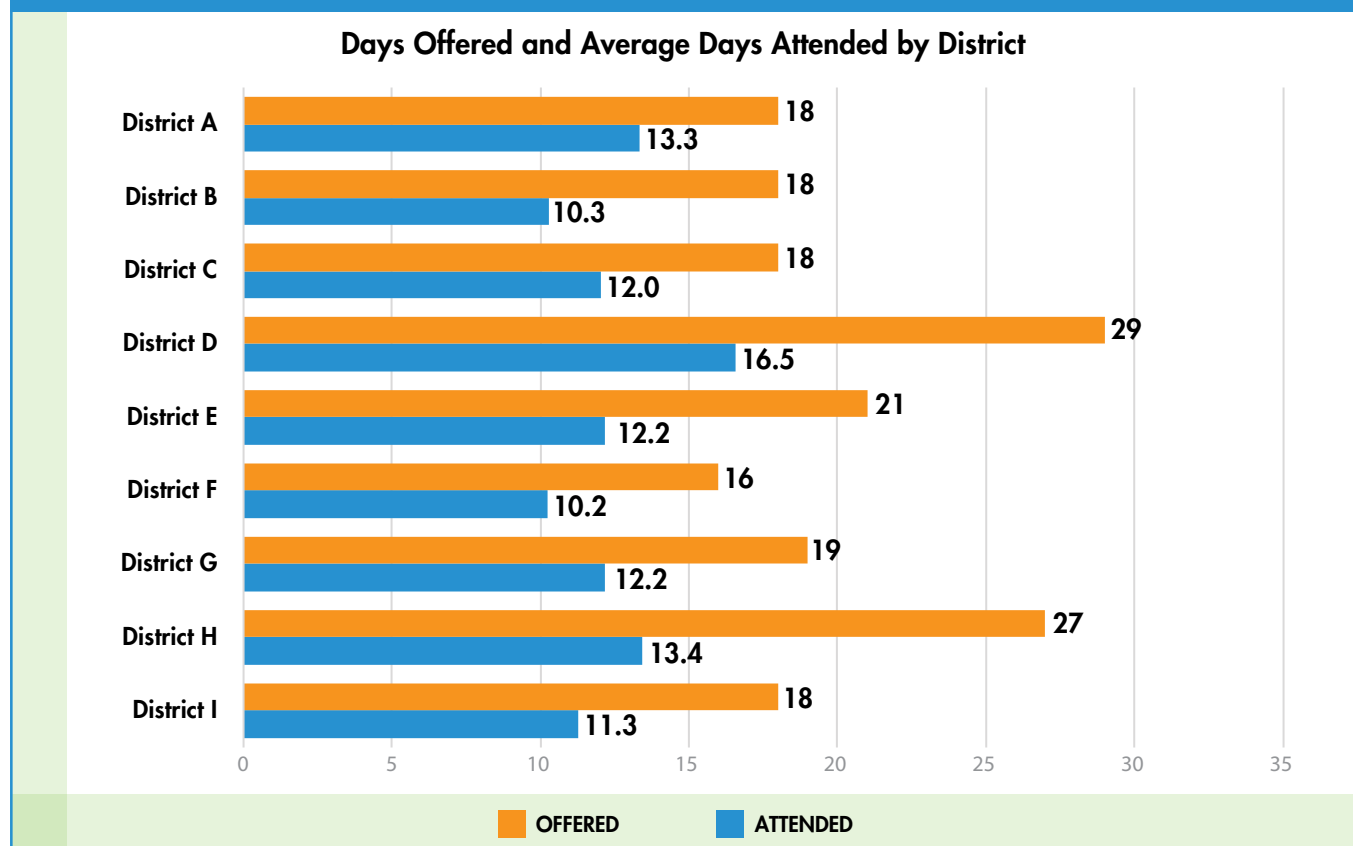
# ATTENDANCE

2

**Enrolled students attended an average of about two-thirds of days offered. Only 1 in 8 students attended 90% or more of days offered.**

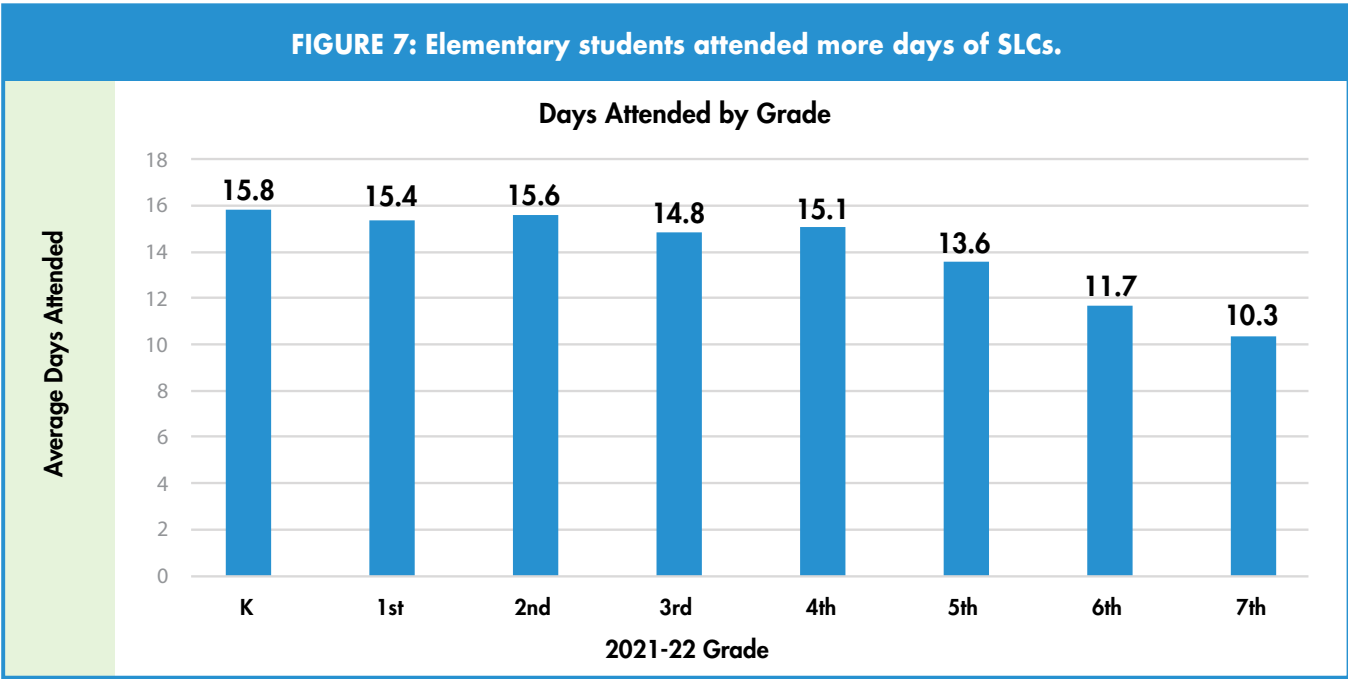
Our partner districts offered between 16 and 29 days in their camps, with an average of 18 days offered. Where districts offered 18 days of summer learning, **students attended an average of 12 out of the 18 days or two-thirds of the offered days.** The district offering the most days (29) had the highest average number of days attended (16.5 days attended out of 29 offered), while the district offering the fewest days (16) had the lowest days attended (10.2 attended out of 16 offered). Notably, in our eight partner districts with complete attendance data, only 12% of students (or 1 in 8) met the 90% attendance threshold proposed in state legislation for mandatory SLCs beginning in 2023. None of our partner districts saw students attend an average of 90% of days offered or had students attend an average of 20 days, which is recommended by prior research on summer learning.<sup>6</sup> Figure 6 shows days offered compared to average days attended by students across the nine districts with complete attendance data.

**FIGURE 6: Enrolled students attended an average of about two-thirds of days offered.**





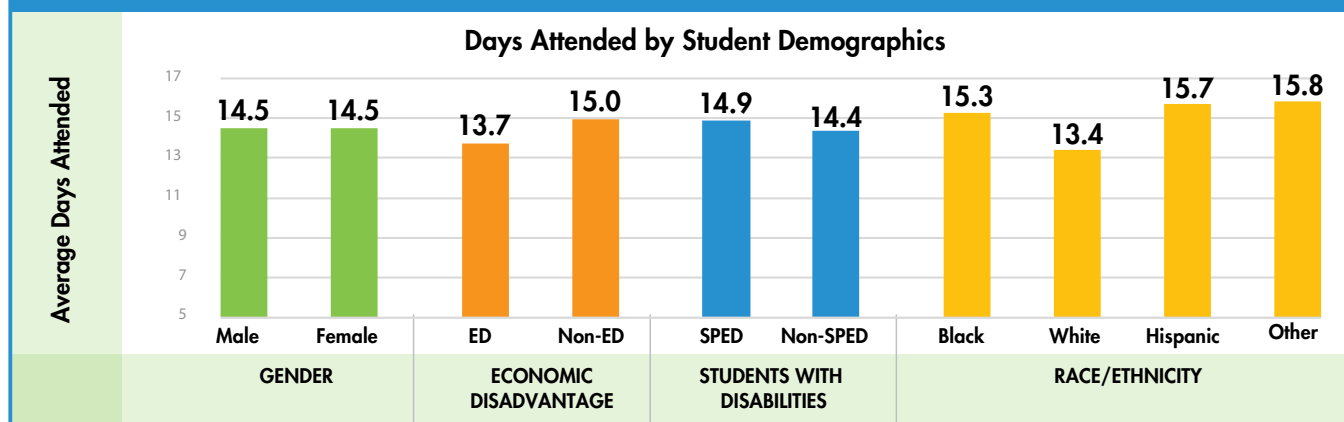
Not only were elementary students more likely to enroll in SLCs, but they also attended more days than older students. Elementary students attended an average of 15 days compared to about 11 for rising middle schoolers.





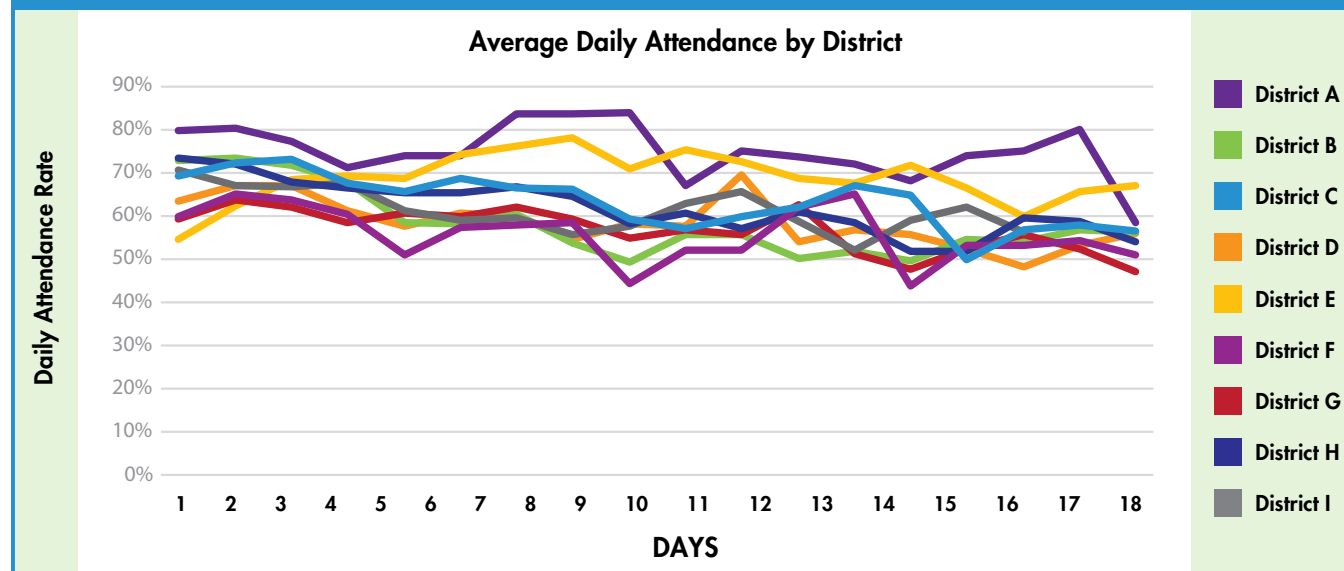
Economically disadvantaged students, who were more likely to enroll in SLCs than their non-economically disadvantaged peers, attended fewer days (13.7 days compared to 15.0 for non-economically disadvantaged students). While higher enrollment rates suggest greater interest in participation among economically disadvantaged students, lower attendance figures suggest that barriers related to economic status may interfere with families' ability to realize summer learning intentions. The gap between enrollment and attendance for economically disadvantaged students will be important to monitor as summer learning attendance becomes mandatory for many rising fourth grade students.

**FIGURE 8: Economically disadvantaged students attended fewer days.**



Attendance tended to fall over the course of the program, a trend observed across each partner district that provided daily attendance data. Average daily attendance rates fell from close to 70% in the first days of camp to around 50% in camps' final days.

**FIGURE 9: Attendance rates declined over the course of the SLCs.**



Several respondents on districts' staff surveys expressed disappointment with attendance rates. "Student attendance was not as high as I hoped it would be, especially with students that were struggling," one teacher wrote. Another said, "Many students would come sporadically or habitually arrive late. Many parents treated the program like free childcare instead of an educational opportunity."



# STAFF SATISFACTION

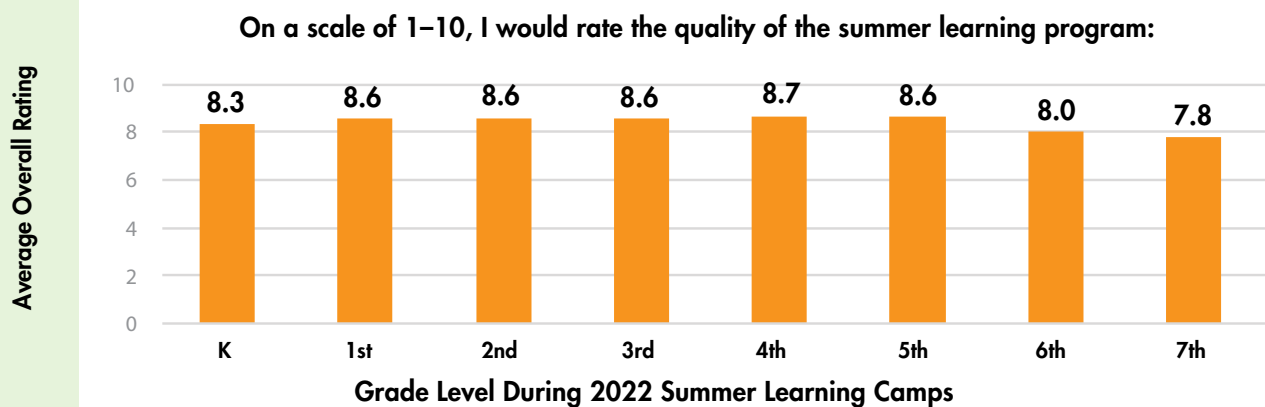
3

Summer learning staff report positive experiences for themselves and their students, especially in elementary grades.



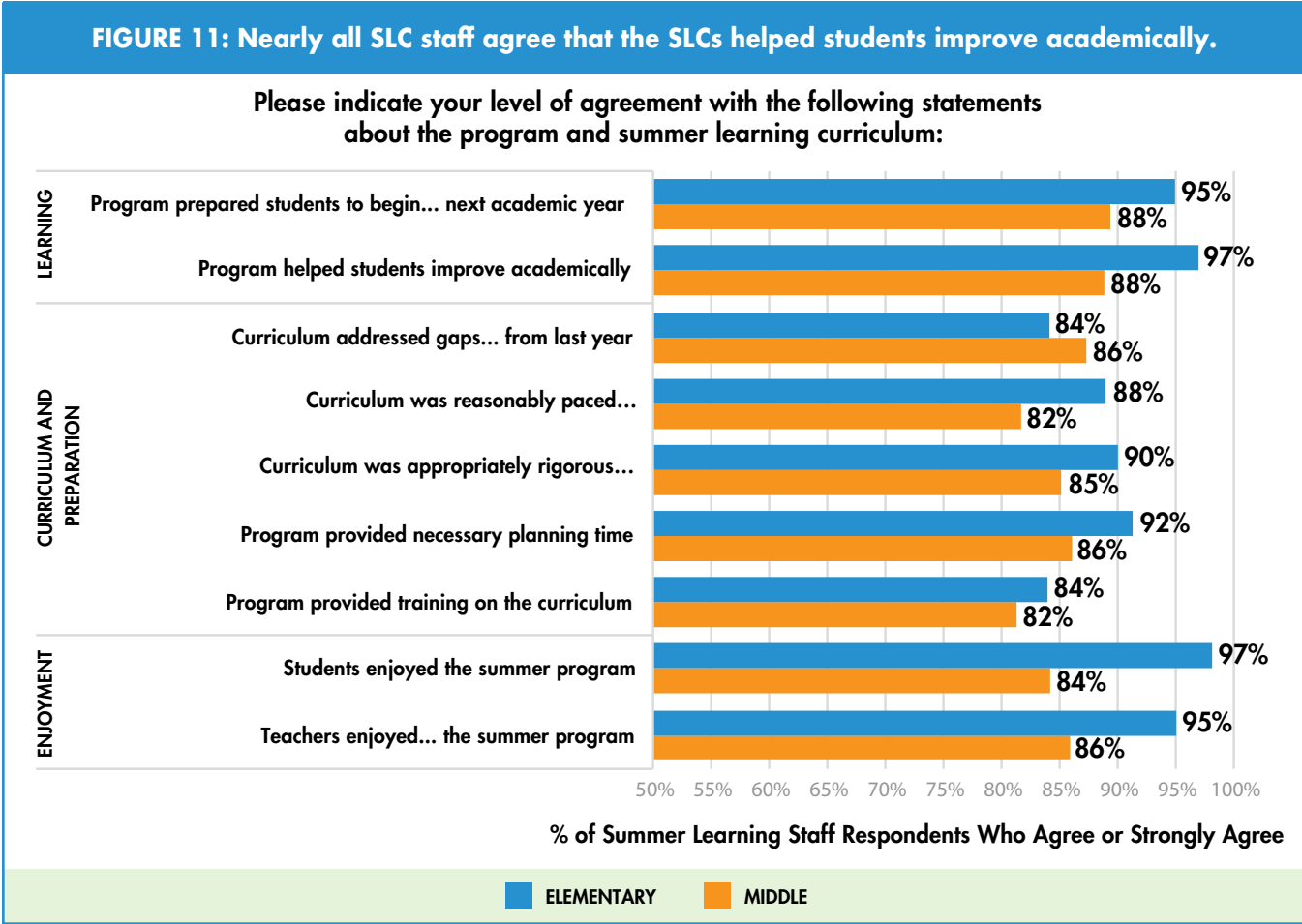
Eight partner districts distributed a staff survey in the final week of SLCs and shared response data with TERA. Across those eight districts, we have responses from 940 SLC teachers and other staff.<sup>7</sup> Survey responses revealed overall positive perceptions of SLCs among participating teachers. Teachers who worked with younger students gave SLCs higher ratings for overall experiences and outcomes than did middle school teachers. Elementary teachers gave SLCs an overall rating of almost nine out of ten, while middle school teachers gave an average rating below eight out of ten.

**FIGURE 10: Summer learning staff report positive experiences, especially in elementary grades.**





SLC staff varied in their ratings of specific components of SLCs. In elementary grades, teachers almost universally agreed that the camps were successful in terms of student learning (95-97%) and both student and teacher enjoyment (97% and 95%, respectively). Levels of agreement were generally lower among teachers of middle school grades, and teachers from all grade levels gave the lowest ratings for items related to curriculum and curricular planning.



On opened-ended survey questions that allowed respondents to go into more detail, SLC teachers elaborated on curricular issues. Sentiments tended to vary depending on whether districts selected their own curricular materials or defaulted to resources offered by the state. Staff noted that the state-provided materials were at times “not engaging or well-paced,” “difficult for students to follow,” and “not what my students needed.” As one teacher said, “We were way beyond those skills. It was great last year when they didn’t have a whole year of learning but was not advanced enough for this year.” In districts that actively selected their own curricular materials, teacher complaints were less frequent.



# ACHIEVEMENT

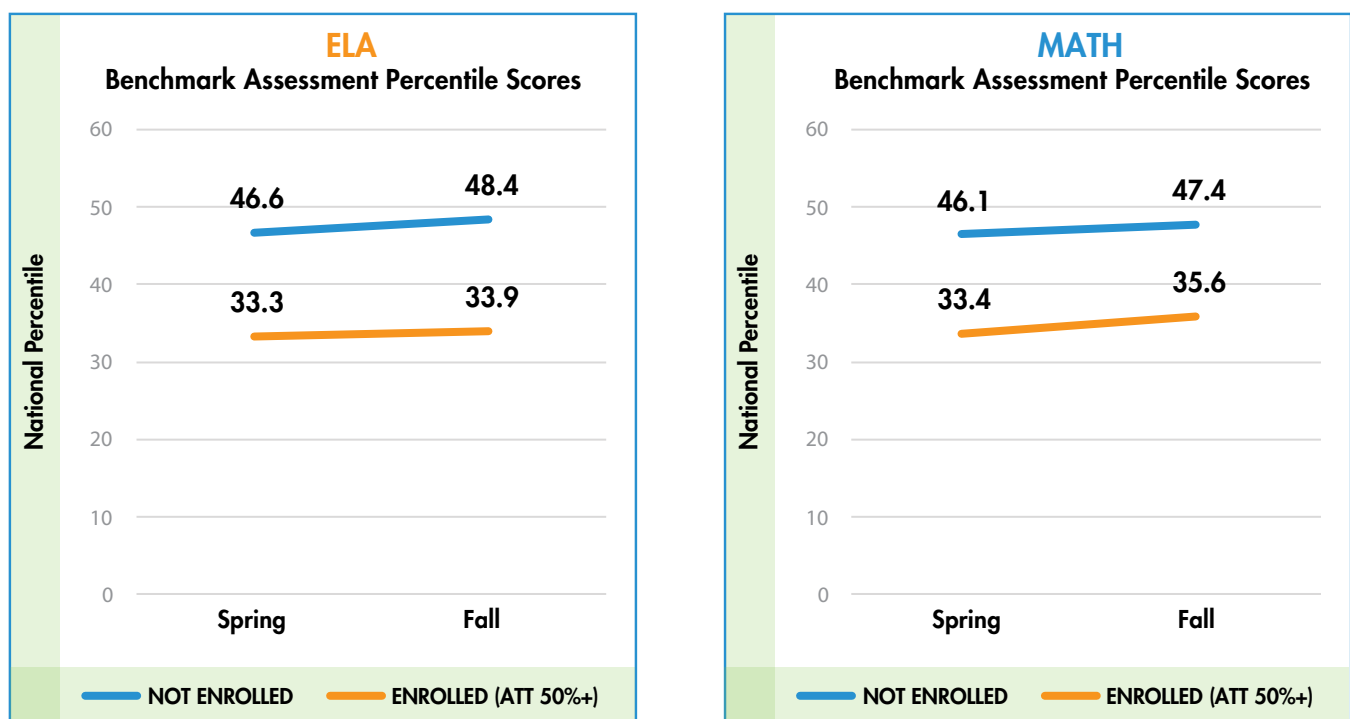
## 4

**Attendance in SLCs is associated with improved math performance in the fall, especially for elementary, non-White, and economically disadvantaged students.**

To examine the association between SLC attendance and academic outcomes, we rely on data from the four partner districts who provided nationally scaled percentile scores from both spring (April-May 2022) and fall (August-September 2022) benchmark assessments along with detailed daily attendance data from their 2022 SLCs. This includes data from more than 4,400 students who enrolled in 2022 SLCs and more than 20,000 students enrolled in the same districts and grades who did not enroll in SLCs and serve as the comparison group.<sup>8</sup> District benchmark tests provide achievement measures administered to all grades and taken closer in time to the beginning and end of the SLC. These benchmark tests also have an advantage over pre- and post-tests administered as part of the SLC which are only taken by program participants and thus do not offer a comparison group.

Students who attended at least half of the 2022 SLC days offered by their district went into the summer an average of 13 percentile points behind non-enrollees on district-administered benchmark assessments in ELA and Math. As shown in Figure 12, over the course of the summer between spring and fall test dates, descriptive gaps narrowed slightly in Math and widened slightly in ELA between students who enrolled (and attended at least half of days offered) and their same-grade peers who did not enroll in SLCs. However, these averages do not account for differences in the demographics of students who enrolled or whether changes between spring and fall were associated with the amount of instructional time students received during SLCs as measured by days attended.

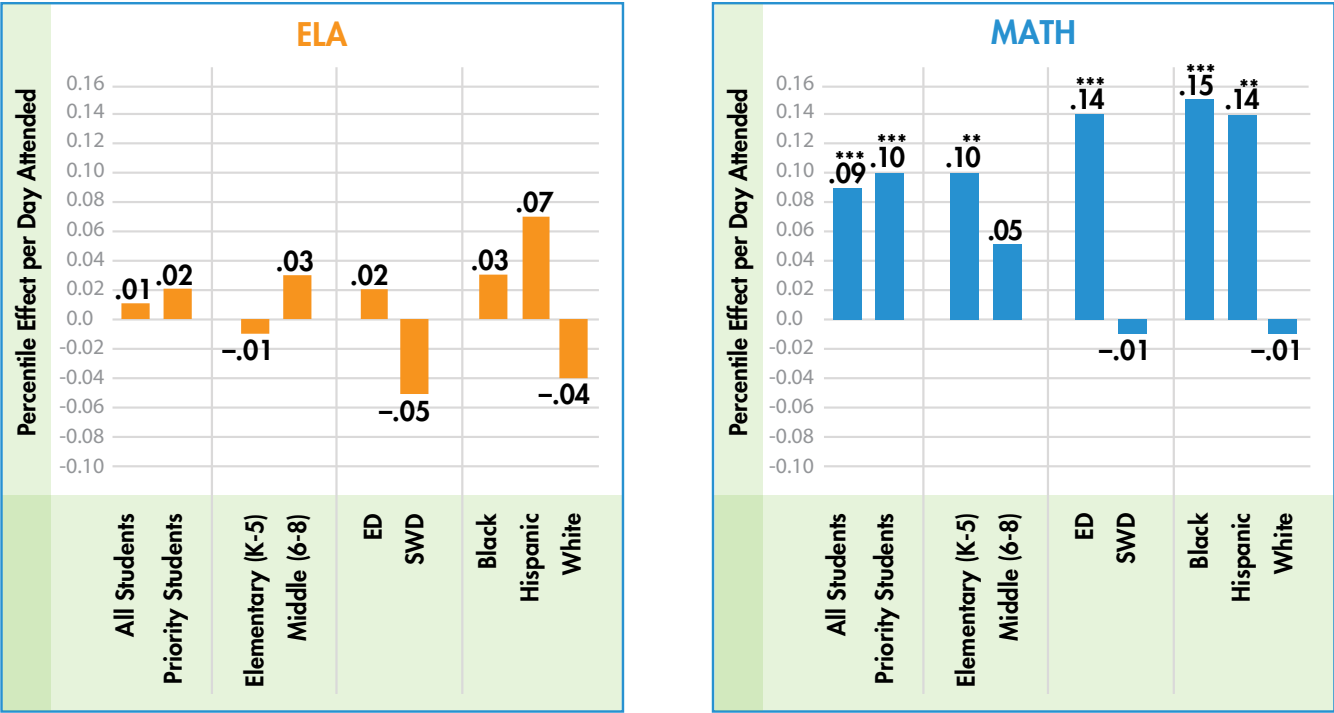
**FIGURE 12: SLC participants scored about 13 percentile points behind their peers in ELA and math on benchmark assessments from the end of the 2021-2022 school year.**





We estimate the effect of SLCs on students' fall benchmark performance using a regression model that controls for students' spring benchmark performance and demographic and academic indicators such as students' race, economic disadvantage, and special education status. We also include an indicator for enrollment to help account for any other pre-enrollment differences not captured by the other controls, as well as a grade-by-district fixed effect to ask whether students within a given grade, in a given district appear to have benefited academically from attending SLCs compared to similar students in the same grade in their own district. Our treatment indicator is days of SLC attended, regardless of how many days were offered by a district. Results are shown as the percentile improvement per day of SLC attended.

**FIGURE 13: SLC attendance is associated with higher fall achievement in Math but not ELA.**



\*p<0.05, \*\* p<0.01, \*\*\*, p<0.001

We find **positive effects of SLC attendance on Math assessments but not ELA**. The benefits of SLC attendance are largest for Priority Students, elementary students, economically disadvantaged students, and non-White students. Effects in Math are around one tenth of a percentile per day attended, suggesting that a student attending the recommended twenty days of summer learning would perform two percentiles higher on their fall Math benchmark than if they had not attended an SLC. Extrapolated to a full 180-day school year, a student attending a year's worth of SLC would gain 18-20 percentiles, which brings the benefits of a day of SLC attendance in line with the value of a day of learning during the academic year.<sup>9</sup> The positive effects we find in Math are consistent with other research on summer learning programs that finds benefits for Math but not ELA.<sup>10</sup>



# CONCLUSIONS AND IMPLICATIONS

Data from enrollment, attendance, staff surveys, and student performance on benchmark achievement tests provide a portrait of 2022 summer learning camps across 10 Tennessee districts. Based on these data, camps offered enjoyable, educational experiences and accelerated math achievement for students who attended. We recap our findings below and offer suggestions for districts planning future summer learning experiences.

## 1

### ENROLLMENT & ATTENDANCE

Our results suggest that getting students to school during the summer is difficult, even for families who want to participate. This seems to be particularly true for economically disadvantaged families, who attended fewer days on average than students from non-disadvantaged families despite enrolling at a higher rate. Families may benefit from greater district support. We suggest districts **gather information from teachers, parents, and students regarding enrollment and attendance barriers and use that information to inform program outreach and design.**

Attendance may also improve with **more guidance and policies around SLC attendance.** Attendance at 2022 SLCs was not mandatory, but this is likely to change with the new third grade retention policy in Tennessee, at least for students who are required to attend camps to be promoted to the next grade level. District policies around attendance varied, but an overview of research on summer learning<sup>11</sup> reports that attendance is strongest when benefits of high attendance are communicated during program enrollment and when free transportation and meals are provided.

## 2

### STAFF SATISFACTION

Overall, SLC staff reported high levels of satisfaction with 2022 SLCs, especially in early grades. Staff reported positive relationships with students and high satisfaction with leadership support. All 10 districts included in this study relied heavily on district staff to serve as leaders and instructors. Some district programs also employed additional staff from the local community, such as college students studying education. This aligns with research that finds that certified, experienced teachers enhance the quality of summer learning.<sup>12</sup>

The option to use default state-provided curriculum was a critical support in the first years of SLCs given the short timeline for planning. However, as districts continue to offer summer learning programs, they should invest the time and attention necessary to select the instructional materials best aligned with their students' needs and their teachers' experience and expertise. Research suggests that materials aligned with state standards and student needs, along with hands-on training and practice with those materials, help teachers feel more confident going into summer learning programs.<sup>13</sup>



# CONCLUSIONS AND IMPLICATIONS

## 3

### ACHIEVEMENT

Our analysis suggests that SLCs improved Math achievement, especially for elementary students, economically disadvantaged students, and non-White students. In Math, we find that the academic benefit of a day of SLC attendance was comparable to a day of learning during the academic year. Beginning in 2023, summer learning will be one of a small number of options for third grade students to avoid retention if they score below proficiency cutoffs in reading. This literacy-based legislation may increase SLCs' focus on ELA instruction going forward, but districts should continue to provide the same valuable learning opportunities in Math that are highlighted in this report.

## 4

### EVALUATION & CONTINUOUS LEARNING

District leaders who partnered in this evaluation found value in the feedback and direction provided by the data we analyzed. The consistency of findings across our partner districts adds confidence to the generalizability of the suggestions drawn from those findings. In addition to this brief, the Tennessee Education Research Association also worked with Annenberg's EdResearch for Recovery to put together guidance for best practices for data collection for summer programs.<sup>14</sup>

Continuous learning requires continuous feedback. As Tennessee districts continue to provide summer learning opportunities for students and families, we suggest collecting and monitoring data on program implementation and impacts. Important trends to monitor include equitable representation in summer enrollment and attendance patterns; teacher, student, and family experiences; and academic outcomes for summer learning participants. Regular and attentive monitoring of these trends should guide districts' efforts to ensure summer learning opportunities are as engaging, enjoyable, and effective as possible.



# ENDNOTES

1. Tennessee Department of Education. 2022. Summer Programming Technical Guidance, Planning Toolkit – Summer 2022. [https://www.tn.gov/content/dam/tn/education/asd/summer-programming/2022\\_mastersummer\\_programming\\_guidance-FINAL.pdf](https://www.tn.gov/content/dam/tn/education/asd/summer-programming/2022_mastersummer_programming_guidance-FINAL.pdf)
2. National Academies of Sciences, Engineering, and Medicine. (2019). *Shaping summertime experiences: Opportunities to promote healthy development and well-being for children and youth*. Washington, DC: The National Academies Press. <https://doi.org/10.17226/25546>
3. The law would require either 90% attendance at a summer camp or tutoring during the following school year. Students who test “Approaching” or “Below” and fail to satisfy either the summer or tutoring remedies would be retained in 3rd grade.
4. <https://www.tn.gov/education/districts/federal-programs-and-oversight/data/data-downloads.html>
5. Deciles reported according to nationally normed test performance, not within district-by-grade. For example, 16% of our total sample is in the bottom decile of math performance in the above chart because 16% of students in our partner districts performed at or below the tenth percentile by national norms.
6. McCombs, J. S., Pane, J. F., Augustine, C. H., Schwartz, H. L., Martorell, P. & Zakaras, L. (2014). *Ready for fall? Near-term effects of voluntary summer learning programs on low-income students’ learning opportunities and outcomes*. Santa Monica, CA: RAND Corporation. [https://www.rand.org/pubs/research\\_reports/RR815.html](https://www.rand.org/pubs/research_reports/RR815.html)
7. Partner districts did not share summer staff rosters with TERA. Without staffing data, we do not have a denominator for the calculation of a response rate.
8. The four districts included in the achievement analysis enrolled a combined 5,000 students in their SLCs. Of those enrolled, 87% have both a pre (spring) and post (fall) benchmark score. It was almost three times as common for students to have only a spring score than to have only a fall score, suggesting that mobile students tended to complete an SLC in their prior school year district before transferring than to have participated in an SLC in a new district before enrolling in the district for the first time in the fall.
9. National percentiles reported with vertically scaled math tests in our partner districts show that a student scoring at the 50th percentile in their current grade might fall between the 20th and 40th percentile of the national distribution of the next grade up, suggesting that a year of schooling is associated with between 10 percentiles and 30 percentiles of growth in math, varying by grade. Total growth includes a combination of school-independent maturation and school-dependent instruction. Given that our effect estimates contrast against a counter-factual control group that experienced some natural maturation from spring to fall, our estimates parallel only the school-dependent component of total growth. Adding natural maturation to our effect estimates would lead to SLCs comparing even more favorably to academic year growth in math.
10. McCombs, J. S., Pane, J. F., Augustine, C. H., Schwartz, H. L., Martorell, P., & Zakaras, L. (2014). *Ready for Fall? Near-term effects of voluntary summer learning programs on low-income students’ learning opportunities and outcomes*. Rand Corporation. [https://www.rand.org/pubs/research\\_reports/RR815.html](https://www.rand.org/pubs/research_reports/RR815.html)
11. McCombs, J., & Augustine, C. (2021). Advancing Student Learning and Opportunity through Voluntary Academic Summer Learning Programs. EdResearch for Recovery Design Principles Series. *EdResearch for Recovery Project*. [https://annenberg.brown.edu/sites/default/files/EdResearch\\_for\\_Recovery\\_Design\\_Principles\\_2.pdf](https://annenberg.brown.edu/sites/default/files/EdResearch_for_Recovery_Design_Principles_2.pdf)
12. Schwartz, H., McCombs, J., Augustine, C., & Leschitz, J. (2018). Getting to work on summer learning. *Rand Corporation*. [https://www.rand.org/pubs/research\\_reports/RR366.html](https://www.rand.org/pubs/research_reports/RR366.html)
13. McCombs, J., & Augustine, C. (2021). Advancing Student Learning and Opportunity through Voluntary Academic Summer Learning Programs. EdResearch for Recovery Design Principles Series. *EdResearch for Recovery Project*. [https://annenberg.brown.edu/sites/default/files/EdResearch\\_for\\_Recovery\\_Design\\_Principles\\_2.pdf](https://annenberg.brown.edu/sites/default/files/EdResearch_for_Recovery_Design_Principles_2.pdf)
14. Annenberg Institute (2023, March). *Measuring & Improving Summer Programs - Best Practices for Data Collection*. EdResearch for Recovery Project. <https://annenberg.brown.edu/sites/default/files/Measuring%20%26%20Improving%20Summer%20Programs.pdf>

