

# FREQUENTLY ASKED QUESTIONS

## LEARNING FROM SUMMER: EFFECTS OF VOLUNTARY SUMMER LEARNING PROGRAMS ON LOW-INCOME URBAN YOUTH

### What is the National Summer Learning Project?

The National Summer Learning Project (NSLP) is the largest effort to date to understand whether and how large-scale, voluntary summer learning programs led by urban public school districts and their partners can help promote success in school. It is a partnership of The Wallace Foundation, the RAND Corporation, Boston Public Schools (with community-based partner Boston After School and Beyond), Dallas Independent School District (with community-based partner Big Thought), Duval County (FL) Public Schools, Pittsburgh Public Schools, and the Rochester City School District.

### How is the study being conducted?

The study is generating a range of reports covering how summer programs can be implemented well, what outcomes are likely, and what policies, practices and other factors support or hinder achieving these outcomes.

Starting in 2011, the RAND Corporation looked closely at each district's summer learning program, identifying strengths and weaknesses, and helping the districts improve their programs. This work resulted in a publication, [\*Getting to Work on Summer Learning: Recommended Practices for Success\*](#), offering concrete guidance to school district leaders interested in launching or improving summer learning programs.

In 2013, the project turned to the evaluation of educational impact, focusing on children who were in 3rd grade in spring 2013. This is a longitudinal study, meaning researchers are following the educational experience and progress of these children as they age. More than 5,600 students are part of the study. About 3,200 students were offered access to the programs.

The study is using a randomized controlled trial (RCT), a rigorous approach to evaluation that can provide the evidence educators, policymakers and funders need to make decisions about supporting and implementing summer learning programs. An RCT randomly places eligible children into one of two groups—children selected to take part in the program and those who are not—allowing researchers to determine that any differences in outcomes are due to the intervention, in this case a summer learning program. Random assignment also ensures fairness when more students want to participate in the program than space allows, as was the case in the participating districts.

RAND also gathered extensive data on program implementation, including summer attendance rates, that allowed researchers to conduct a rigorous set of correlational analyses, controlled for demographics and prior achievement, that explore the relationship between implementation and outcomes. These provide insights into how such programs can best be implemented, whether students will attend, whether students will benefit academically, and what factors appear most important in achieving good outcomes.

*Learning from Summer: Effects of Voluntary Summer Learning Programs on Low-Income Urban Youth* is the second publication reporting on student outcome findings from the NSLP. In December of 2014, RAND published [\*Ready for\*](#)

*Fall? Near-Term Effects of Voluntary Summer Learning Programs on Low-Income Students' Learning Opportunities.* This report presented the near-term findings based on analysis of data collected in the fall after the first summer of programming (summer, 2013).

RAND is gathering a wide range of data as both groups of children age, starting in the 4th grade and continuing through 7th grade, including school year grades and attendance, measures of social and emotional skills, and student performance on standardized assessments of math and reading.

## What did the summer learning programs offer and what did they look like in each district?

The summer learning programs offered by the five districts included several research-based, common elements:

- A mix of academic instruction, aligned with the school year curriculum, and enrichment activities, such as art, cooking, theatre, music, and tennis, that exposed students to fun activities that complement the academic experience.
- Certified teachers providing academic instruction.
- Small class size (no more than 15 students per class).
- Full day programs, provided five days a week except holidays, offering at least 3 hours of instruction each day (math and English Language Arts).
- Five to six weeks in length.
- Offered free of charge to families, including transportation and meals.

At the same time, districts had the latitude to make numerous programmatic choices. For example, districts selected their English Language Arts (ELA) and math curricula from a list of established, well-recognized curricula including the American Reading Company and the National Geographic curricula, Voyager Math Summer Adventure, Summer Success Math, and McGraw-Hill Number Worlds. And the five participating districts varied substantially in how they designed their enrichment programs. Some districts had a strong art, music, and theatre focus, while others included activities such as sailing, tennis, cooking and rock climbing.

## What is the study measuring?

Researchers are collecting and analyzing a wealth of data about the educational experience and progress of the children who were selected to take part in the summer learning programs and those who applied but were not selected to take part. The findings are based upon:

- Students' math and ELA achievement measured by performance on standardized assessments (GMADE math and GRADE reading assessment) administered within four weeks of the start of the 2013 school year and then again, after the start of the 2014 school year.
- Surveys completed by students' homeroom teachers in fall of 2013 and fall of 2014 measuring social and emotional skills.
- Spring 2014 and spring 2015 academic achievement in ELA and math, measured by state assessments.
- School year 2013-2014 and 2014-2015 course grades in ELA and math.
- School-year suspensions in 2013-2014 and 2014-2015.

- School-year attendance in 2013-2014 and 2014-2015.
- Summer attendance data for each student.
- Observations of classrooms to calculate the estimated number of instructional hours each student received and instructional quality.
- Surveys of academic teachers in the summer learning program to inform measures of site orderliness and perceived appropriateness of curriculum.
- A brief survey of students about their summer activities.

Researchers will continue to collect and analyze data as the study assesses students' progress each school year through the 7th grade.

### What benefits for students were reported in *Learning from Summer: Effects of Voluntary Summer Learning Programs on Low-Income Urban Youth*?

The findings reveal that elementary school students with high attendance at voluntary summer learning programs—defined as at least 20 days of a 5-6 week program—experienced benefits in math and reading.

The evidence for high-attending students is from a correlational analysis that controlled for differences in students' prior achievement and demographics, which gave researchers confidence that the findings are likely true program effects. Among students who attended at least one day, 60 percent were high-attenders.

High-attenders outperformed students in the control group (students who were not randomly selected to take part in the summer learning programs) in math after one summer, and, after the second summer, in math and reading. Students who had high academic “time on task” also experienced benefits in math and reading. These benefits were apparent in the fall at the beginning of the school year, and again in the spring, at the end of the school year.

The academic advantage for the high-attending students after the second summer translates to between 20 and 25 percent of typical annual gains in math and reading.

High-attenders also experienced positive impacts on social and emotional skills after the second summer. However, unlike math and reading, researchers were not able to control for levels of these skills among high attenders prior to the program, since those data did not exist. For that reason, RAND researchers said they were “moderately less confident” that the improved performance among high attenders after the program were not due to “selection bias,” factors other than the program itself. In other words, lacking prior data on social and emotional skills, they could not rule out the alternative explanation that students who had high attendance in both summers systematically exhibited more positive social and emotional skills prior to participating in the program.

Separately, the study also examined the impact of the programs on all students who were offered access to the programs, whether or not they actually attended. Because many students did not attend at a high level, and some didn't attend at all, the average benefits for all of these students were smaller and not statistically significant, with the exception of a modest but statistically significant advantage in math scores in the fall after the first summer. These benefits were the equivalent of 15 percent of a year's learning.

## High levels of attendance are related to positive outcomes after the second summer. Is this due to the cumulative impact of two summers?

Based on the pattern of results and what we know about how the districts implemented and improved their summer learning programs, RAND concludes that the outcomes after the second summer “most likely reflect a combination of cumulative program exposure and improved quality of programming in the second summer.”

## Does this mean that high-attending students in a 5-6 week summer learning program saw gains in knowledge equivalent to 20-25 percent of a year’s worth of learning after the second summer?

The study found that students with high attendance had an advantage over the students in the control group who were not assigned to the program. Although we do not know exactly how gains in learning and avoidance of learning loss combined to produce the 20-25 percent benefit, it’s clear that high-attending students in the program had a meaningful advantage academically compared to those in the control group.

## What is social-emotional learning (SEL) and how was it measured?

Social-emotional learning (SEL) refers to how children acquire the knowledge, attitudes and skills they need to understand and manage emotions, set and achieve positive goals, feel and show empathy for others, establish and maintain positive relationships, and make responsible decisions. In this study, to assess students’ social and emotional skills, school-year teachers filled out a short survey called the Devereux Student Strengths Assessment-RAND Research Edition (DESSA-RRE) about each student who was assigned to the study and was in their class. The DESSA-RRE specifically measured self-regulation and self-motivation, important markers for social and emotional learning. Teachers completed the surveys in the fall of 2014 and fall of 2015, after having the study students in their class for at least 11 weeks.

## How can summer learning support a school district’s overall strategy for helping children succeed in school?

This study reveals that free, voluntary, district-run summer learning programs can deliver academic benefits to high-attenders, defined as attending at least 20 days of a 5-6 week program. These benefits are comparable to 20-25 percent of a year’s learning in math and reading after the second summer.

Benefits for all students offered access to the programs were, on average, smaller and generally not statistically significant, likely because many either didn’t attend or attend often enough. These students, did, however, show an average gain in math in the fall after the first summer comparable to 15 percent of a year’s learning.

## Why did the causal analyses conclude that the programs did not lead to improvements in students’ reading outcomes?

There are a number of possible reasons that reading differences were not detected in the causal analysis, which includes all students whether or not they attended, including the fact that improving reading skills can be particularly difficult. It could also be that the number of hours that students in the study actually participated in ELA instruction may not have been enough to improve reading skills. Learning from Summer notes, for example, one study by Lauer et. al. (2006) found that out-of-school-time reading programs between 44 and 84 hours in length had the largest effects on reading outcomes and programs offering fewer than 44 hours did not result in positive benefits. Among the five school districts

participating in this study, the average number of hours of ELA instruction received by students over the course of the program, after factoring in their attendance rates, ranged from a low of 19 hours to a high of 29 hours.

## The causal findings found that, after one summer, students gained a near-term benefit in math comparable to 15% of a year’s learning. Why did these math benefits fade by the following fall, one year later?

While the causal findings reveal that students achieved a benefit in math that is statistically meaningful in the short-term, the longer-term effects of the program were positive but smaller and statistically not significant. There is an extensive body of literature indicating that many educational interventions show similar patterns of fadeout: programs that report significant impacts measured at the end of treatment do not show the same results after more time has elapsed.

Keep in mind that the fade effect we are discussing in this question applies to the math benefits experienced, on average, among all students offered the program—whether they attended or not, compared to the control group. These are the causal findings revealed by the RCT. We are not speaking here to the set of correlational analyses that uncovered broader benefits for high-attenders and which persisted through the spring both after the first summer and after the second summer.

## What does effect size mean?

Standardized effect sizes are used to quantify the difference between two groups of students, a customary procedure in education research. This approach allows us to compare the magnitude of program effects across various outcome measures, such as mathematics and ELA outcomes. It also makes it possible to compare the impact of one intervention with other interventions. Technically, an effect size is the mean difference between two groups, which is expressed as the percentage of a standard deviation. For example, research has revealed that, from spring of 3rd grade to spring of 5th grade, the average change in learning between these two points in time can be expressed as an effect size of 0.38 per year for reading and 0.54 per year for math. We can see that the average gain a student makes during this time period in math is about 30 percent more than the average gain made in reading.

## Why does the report present outcomes for the entire study, but not for each individual district?

Students from all five of the districts participating in the NSLP contribute to the results of this study. The study was not designed to have the statistical power to detect effects on students in individual districts. However, RAND researchers did explore this question and concluded that “we do not have evidence that districts had differential contributions toward any of the results.”

## Why were no-show rates higher in year two of the study?

It’s important to keep in mind that the randomized controlled trial created an early, two-year admission process that does not reflect “business as usual” for a school district operating a summer learning program.

In the spring of 2013, a group of students (the treatment group) were offered access to two years of summer programming. Once that group of students was determined, districts could not recruit for new students in the following spring—something districts would normally do to compensate for students whose plans had changed or whose families moved. In fact, about 11 percent of the entire study sample moved out of the school district by summer of 2014.

Because this group of students applied for and were accepted into the summer learning programs in the spring of 2013, about 14 months before the summer program in year two even started, it’s very possible that, for families that had not

moved out of the district, parents' plans for what their children would do in the summer of 2014 changed, or that some children's interests shifted and they took part in different activities in year two.

Districts worked hard to attract students back for a second summer but this task of retaining students for summer number two was made all the more difficult by implementation challenges, such as the inability to keep up with evolving contact information for families.

## Why is attendance during the summer, relative to the regular school year, so low?

The average daily attendance across the five districts' summer learning programs was approximately 75 percent. During the regular school year it was 96 percent for these same students. The explanation for this significant difference is probably multifaceted. Attendance in these programs is voluntary, unlike the regular school year or mandatory summer remedial programs. The more relaxed attitudes of parents, and their children, when it comes to summer undoubtedly comes into play—when we conducted focus groups with parents, for example, we heard that parents consider summer a time for their children to get a break from the rigors of the school year. Anecdotally, we also learned that family vacation plans and the need for some students to care for younger siblings during the day interfered with attendance.

## What can be done to improve attendance?

Each of the participating districts did a great deal to promote attendance, from communicating to parents about the importance of attendance to calling home when children were absent to offering incentives for attending. The steps taken by the districts align with the principles that the organization Attendance Works highlights as successful strategies. Indeed, it could be that, had the districts not invested the effort into promoting attendance, average daily attendance would have been lower than 75 percent.

One factor that RAND identified that was related to poor summer attendance was poor attendance during the regular school year. Thus, in addition to ongoing efforts to promote attendance during the summer, it may prove fruitful for districts to engage with children who exhibit poor attendance habits during the regular school year, seeking to address issues that could interfere with attendance during the summer as well as spark excitement about the upcoming summer offerings.

## How can public school districts and community partners apply these findings?

These findings offer important lessons that public school districts and their partners can utilize when designing and implementing summer learning programs that are intended to help students academically. High-attenders (defined as those attending at least 20 days) and students who receive high dosage (the number of hours students actually spent on academic instruction) are likely to benefit in math and reading. There is also evidence of benefits in social and emotional learning after the second summer, though researchers are less confident in these findings. Thus, districts should make sure they are building in adequate instructional time by having programs last at least five weeks, and protecting that instructional time by, for example, not scheduling classroom transitions during scheduled academic blocks or pulling students out for assemblies or other activities during academic time. RAND also urges investing in instructional quality. And, given the clear importance of attendance, districts should take steps to promote attendance, closely tracking the outcomes of these efforts, and offering academic and enrichment opportunities that excite students. Finally, districts may want to consider their own historical attendance data when making staffing and facility plans in order to lower per-student costs. For example, district leaders should expect about a 20 to 30 percent no-show rate for a voluntary summer program for students of this age and expect that approximately half of students will return from one summer to the next.

## What do summer learning programs cost?

There are two ways of looking at costs on a per-student basis. One is the average cost per student—the average across the five districts was \$1,340. The other is cost per filled seat, factoring in absenteeism—the average across the five districts was \$1,860. These figures translate to an average hourly cost of \$6.70 per student and \$9.20 per filled seat.

As a point of reference, school-year costs in these five districts ranged from \$7.65 to \$20.06 per hour. And a study by Cornman (2015) found that the national average school-year costs are \$10.52 per student per hour.

## How do these findings impact eligibility of summer learning programs for school improvement grants under Title I of ESSA?

The causal, RCT findings documenting near-term gains in math would be considered “strong” under the standards set forth in the Every Student Succeeds Act (ESSA). Summer learning programs like those participating in the NLSP could be eligible for federal funding under ESSA if they include a focus on math skills.

The correlational findings, controlled for prior achievement and demographics, revealing that high-attending students and students receiving high dosage are likely to benefit in math and reading, would be considered “promising” under ESSA. Therefore, a summer learning program like those in this study might be eligible for federal funding under ESSA if the program can document consistent attendance, as well as ongoing efforts to promote attendance.

## Are there additional findings that will be coming out of the NLSP?

Yes, RAND will again examine academic, behavioral, and social-emotional outcomes in spring 2017, when these students reach the end of 7th grade. That will be four years after students applied for and were randomly selected to take part in the summer learning programs. RAND will also publish several other reports including: an updated guide to implementing summer programs; an analysis of what policies at district, state and federal levels can support, or hinder, summer learning; an analysis of summer learning loss; and a report on how districts can integrate summer programming into ongoing operations.

In addition, Wallace will be developing a number of tools that districts and their partners should find useful. These include a guide to recruiting children to participate in voluntary summer learning programs and a toolkit to support summer learning program planning.

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