

Measuring Success in Summer School

With Recommendations for Improvement



by Jennifer Hogg
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Executive Summary

Berkeley Unified School District is committed to evidence-driven decision-making to improve its quality of instruction, and ultimately, help students. Education research has shown that the problem of summer learning loss is a major driver of the achievement gap between low-income students and their peers. Two-thirds of the income-based achievement gap by the start of high school is attributable to summer learning loss (Alexander, 2007).

BUSD has responded by implementing the “Academic Advancement” summer school program for the past eight years, serving mostly low-income students, with the goal of eliminating the income-based achievement gap among its students. BUSD wants to ensure that this program is working toward this goal, and has therefore contracted a rigorous analysis of its progress. Additionally, BUSD would like to make evidence-based implementation decisions to help improve outcomes for future summer school attendees.

A comparison of summer school attendees with similar students who did not attend summer school reveals the following:

- Students participating in summer school are more likely to be low-income, receive special education services, and be English language learners than their peers.
- Students participating in summer school lag behind their peers academically.
- This study does not reveal a statistically significant effect on test scores, but a number of limitations require that this result be interpreted with caution.

An analysis of BUSD’s current **program infrastructure** reveals the following:

- Insufficient time is dedicated to planning due to **inadequate capacity**. When compared to high-performing programs, BUSD does not have the capacity necessary to plan and implement best practices.
- The program effectively **leverages community-based organizations (CBOs)** for assistance with core tasks. The program uses CBOs provide the sites’ principals, tutoring, and afternoon assistance to improve quality and decrease costs. However, the program does not leverage CBOs to provide on-site enrichment opportunities, field trips, or private funding.
- There is strong **financial commitment** to the program, but there is currently **no system for tracking spending** on summer school, preventing an analysis of cost-effectiveness, or a discussion about how the program could re-optimize spending.
- This evaluation, in addition to stakeholder meetings and surveys, reveal **a commitment to improvement**. However, insufficient time and effort is dedicated to strategic improvement from one year to the next, due mostly to insufficient capacity.

An analysis of BUSD’s practices that directly impact **student learning** reveals the following:

- **Students benefit from a lot of academic support and individualized instruction, but teachers struggle to meet student needs.** This is mostly because there is no information

provided to teachers about their students before summer school starts. This makes it difficult to tailor instruction to individualized needs, especially for a program that has a high concentration of students who are low-income, are English language learners, have an IEP, and are academically behind, during such a short program.

- **Teachers are committed** and experience joy in teaching summer school, but the district does not use performance indicators to hire for summer school, largely because **too few teachers want to teach summer school**.
- **Student attendance is too low, and the program lacks a system for monitoring and incentivizing attendance.** In order for students to learn from summer school, they must attend. Secondhand observation reveals that attendance can often be as low as 50%, to the detriment of the program's cost effectiveness and overall effectiveness.
- The program **lacks a clear focused vision and mission**, making it difficult to ensure the program is actively working toward the district's desired outcome.

The core underlying problem is a lack of planning capacity when compared with high-quality programs. The district must choose one of the following solutions to the district's lack of planning capacity:

1. Reform existing practices without additional planning capacity.
2. Increase in-house planning capacity to facilitate reform.
3. **Hire a technical assistance provider to increase the efficacy of time spent planning summer school.**
4. **Shift the program to more experiential learning with non-credentialed teaching staff.**
5. **Contract implementation out to a lead agency community-based organization.**

This report recommends alternatives 3, 4, or 5.

Unless the district chooses to contract program implementation to a "lead agency", which handles all planning and implementation, this report recommends the following program improvement steps.

1. Monitor attendance and keep electronic records.
2. Create a program-wide system to incentivize attendance.
3. Set an enrollment cutoff date.
4. Compile student data profiles of all summer school attendees, and distribute to teachers.
5. Conduct a survey of BUSD elementary teachers to determine factors influencing their willingness to teach summer school.
6. Draft mission and vision statements with input of stakeholders, and use it as a guide for future decisions.
7. Move hiring timeline up, and hold additional meetings prior to orientation.
8. Invite all individuals who work with summer school students to orientation, including instructional assistants and BEARS teachers.
9. Establish a consistent method of communicating with school principals.

- 10.** Start the search for CBOs by creating a list of field trip sites aligned with program's goals.
- 11.** Create a separate summer school-specific financial tracking system.
- 12.** Create a more equitable fee policy
- 13.** Reach out to the City of Berkeley and make the case for city support.
- 14.** Build a method for annual evaluation into the program.

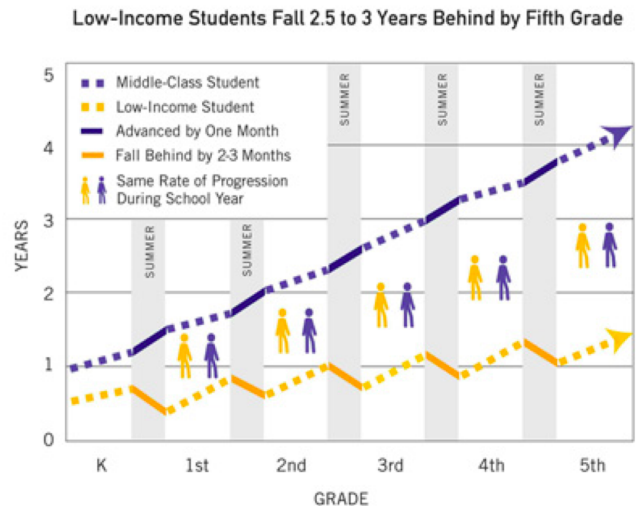
Background

Summer Learning Loss

Summer learning loss is the phenomenon whereby students lose much of the academic knowledge they acquired in the previous school year over the summer months. This phenomenon is more common and pronounced among low-income students, and research has shown that summer learning loss is a major driver of the achievement gap between low-income students and their peers (Alexander, 2001; Borman, 2010; Cooper 1996). While children of all income backgrounds learn at similar rates during the regular school year, learning slows or is even lost for many low-income children (Alexander, 2001). Meanwhile, most middle- and high-income students continue to learn over the summer.

Figure A displays how summer learning loss accumulates from year to year, and results in low-income students falling nearly 3 years behind their peers by fifth grade (Borman 2011).

Figure A. Illustration of the impact of cumulative summer learning loss



In response to these findings, many schools are exploring ways to prevent summer learning loss among its low-income students. Some districts are converting to year-round scheduling to eliminate the long gap between academic school years, while others are implementing summer programming to provide youth from disadvantaged backgrounds with the learning experiences many of their advantaged peers are getting at home. BUSD is one such district pursuing the latter. Evidence shows that high-quality summer school can be an effective strategy to combat summer learning loss (McCombs, 2011; Borman 2000; Zvoch, 2012; Borman 2006; Cooper, 2000).

The effect of summer school on summer learning loss

Students who attend summer school tend to perform better academically than their similarly-situated peers (Cooper, 2000; Borman, 2000; Borman, 2006; McCombs, 2011; Zvoch, 2012).¹ Many programs not only successfully prevent summer learning loss, but actually produce learning gains.

A more recent meta-analysis by the RAND Corporation similarly found that most summer school programs have a positive effect, and that the size of the average effect more than outweighs summer learning loss for low-income students (McCombs, 2011). These gains tend to diminish over time, but

¹ The average effect size across studies in Cooper et al's meta-analysis is .14 to .26 standard deviations, which is average in the context of education interventions.

do not disappear entirely (Cooper, 2000), supporting the conclusion that summer school involvement year after year could effectively narrow the income-based achievement gap.

An important caveat to these findings is that while the average effect size in these studies is positive, not all summer learning programs prevent summer learning loss (Borman, Goetz, and Dowling, 2009), and furthermore, not all summer school programs are studied. If more successful programs are more likely to be the subject of a study, on average, then it is possible that the average effect of all summer schools is actually lower. Nevertheless, these studies reveal that high-quality summer schools have the ability to combat summer learning loss. The remainder of this report will detail what high-quality programs do to improve student outcomes, how well BUSD's summer school program is doing to combat summer learning loss and narrow the income achievement gap in Berkeley, and what steps it can take to increase its impact.

Guide to this Report

Section 1 of this report includes the quantitative data analysis, which will answer the following questions:

- Who attends summer school?
- Does the Academic Advancement program reduce summer learning loss?
- Does the program have lasting and cumulative effects, narrowing the income achievement gap as students attend more summer school sessions?

Section 2 of this report outlines BUSD's current practices.

Section 3 organizes summer school best-practices to answer the following questions:

- Are certain summer school practices associated with larger student gains?
- What practices are common among high-quality summer programs?

Section 4 assesses BUSD's program quality when compared to established best practices and high-quality programs in California.

Section 5 outlines BUSD's barriers to success.

Section 6 offers reorganization alternatives for the Board to consider.

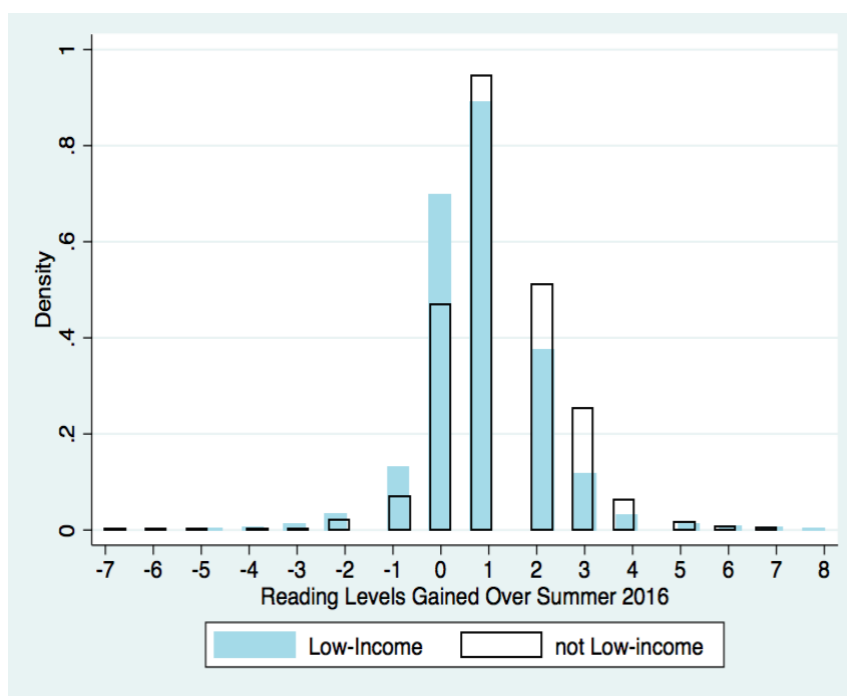
Section 7 offers recommendations.

1. Quantitative data analysis

Describing Academic Advancement students

Consistent with national achievement gaps, low-income students in Berkeley are more likely to lose reading skills over the summer than their higher-income peers. **Figure B** displays the change in elementary school students' reading levels between spring and fall of 2016, separated by income status. It was most common for both low-income and not-low-income students to gain one reading level over the summer. However, low-income students are more "skewed left;" in other words, a higher proportion of low-income students experienced summer learning loss or no growth over the summer than their not-low-income peers.

Figure B. Summer reading level gains or losses, by income status



This disparity between low-income students and their peers is one of the primary reasons BUSD's Office of Extended Learning started the summer school program. In addition to being more low-income than the general BUSD student population, summer school students are more likely to be english language learners (ELL), receive special education services or have an Individualized Education Plan (IEP), and have been below the average reading level when they first started school as Kindergartners. **Figures C-F** display these disparities.

Figure C. Share of students who are Low Income

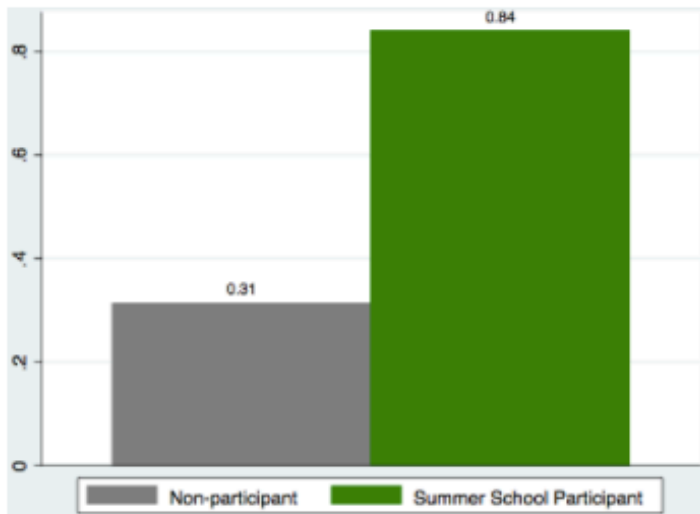


Figure D. Share of students who with IEPs

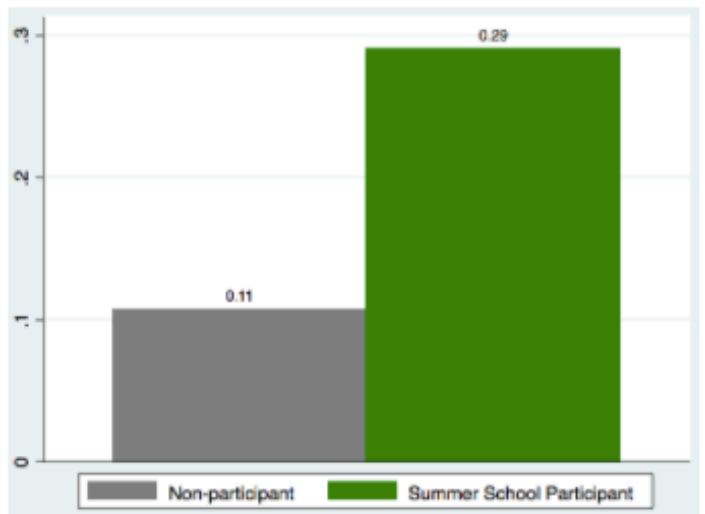


Figure E. Share of students who are English language learners

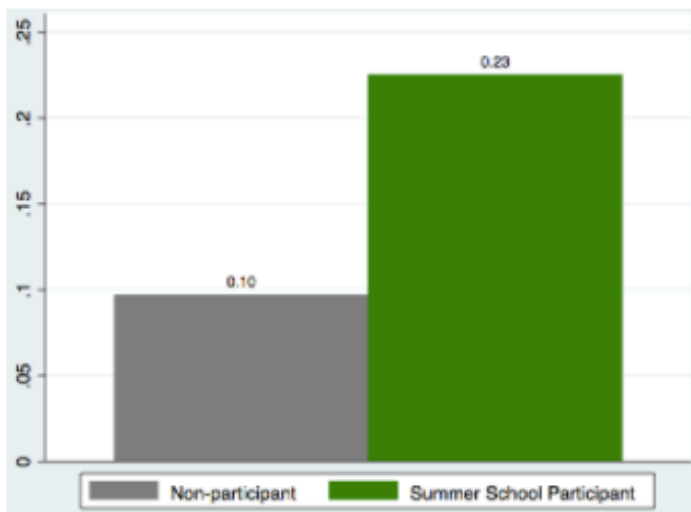
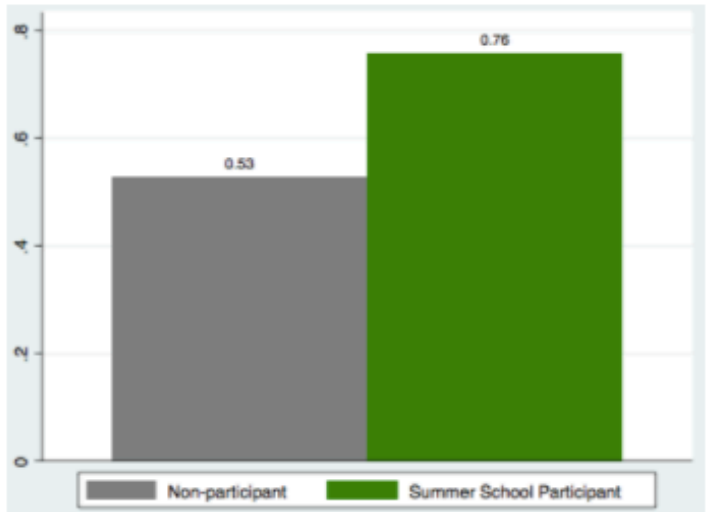


Figure F. Share of students reading below average in Kindergarten



In addition to these barriers, students enter summer school having performed at lower levels than their peers in the previous year. Figure G displays that average spring **English Language Arts** (ELA) scores for summer school participants were lower than non-participants, separated by current grade level,² and Figure H displays the same trend for state **Math** test scores.³

² Current grade level is one year ahead of the students' grade levels when these tests were administered. For example, current 6th graders were in 5th grade when their reading level was measured, and their participation in summer school was the summer between 5th and 6th grade.

³ This graph is restricted to students who were in grades 3-5 in Spring 2016, because there is insufficient math data apart from the standardized test data, and students younger than 3rd grade do not take state standardized tests.

Figure G. Mean ELA scores, Spring 2016

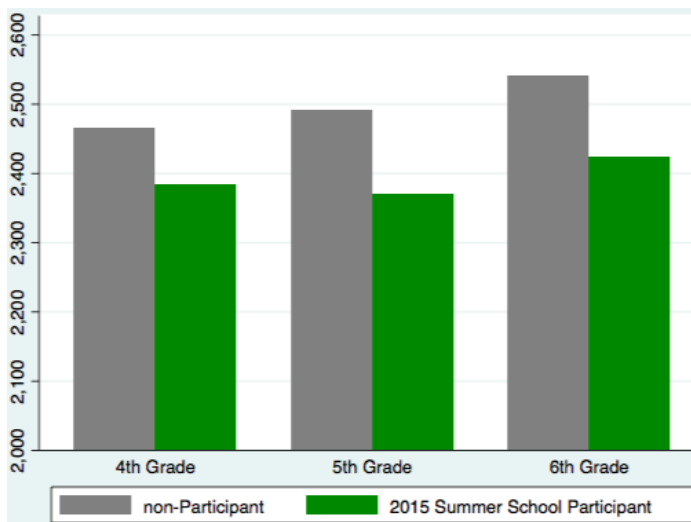
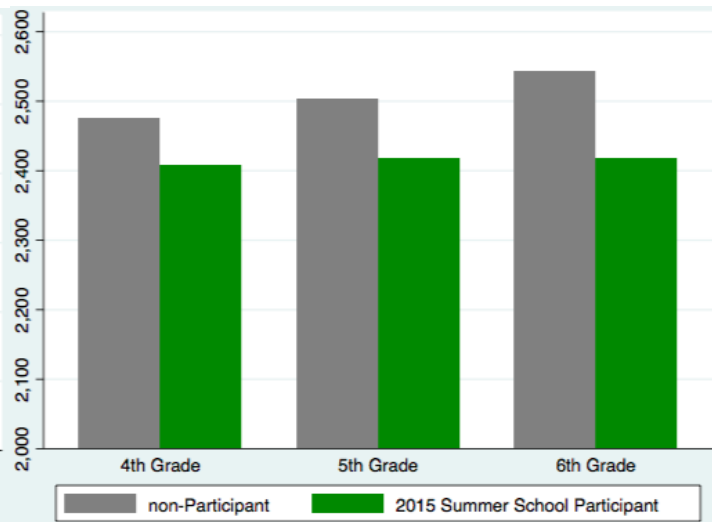
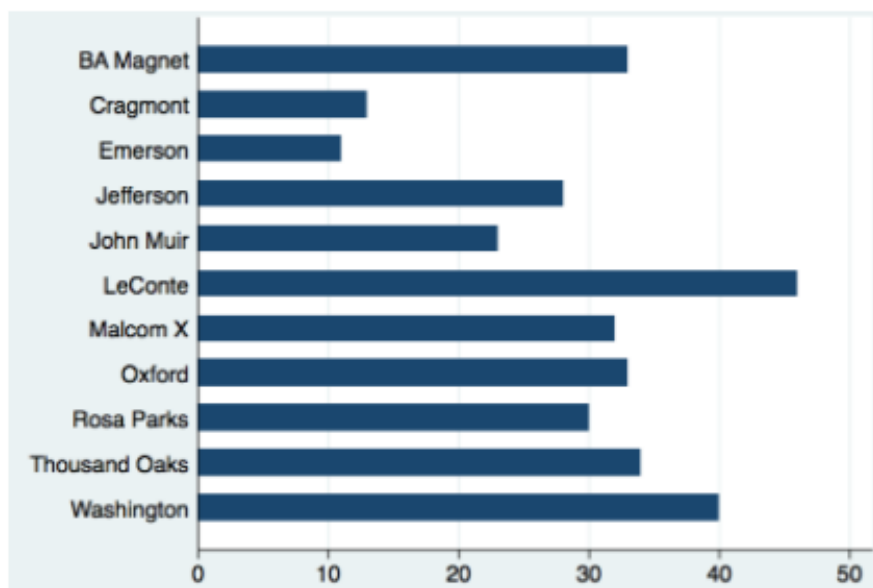


Figure H. Mean Math scores, Spring 2016



Students are more likely to LeConte, Washington, and Berkeley Arts Magnet Elementary School students were best-represented at summer school. The lowest number of students came from Cragmont and Emerson Elementary Schools.⁴

Figure I. Home Schools of Summer School Students



Matched-pair design

To answer the question, “is the Academic Advancement program effective?”, I will use a matched-pair design approach, the most rigorous method available given the characteristics of the program and data available.

⁴ This graph does not include students who were rising 6th graders in summer school 2016, or the one student from a non-public school attended summer school.

Ideally, we would be able to tell how students who enrolled in summer school would have performed academically had they not attended summer school. Since we cannot go back in time and observe what would have happened to the same student under different circumstances, we will instead utilize a technique that “matches” students who completed summer school to students that did not, but are otherwise similar on observable characteristics, such as income status, Kindergarten achievement and attendance, grade, school, ELL status, and IEP status. The summer school participants are our “treatment group,” and the non-participants they have been matched to are the “comparison group.” Once the students are matched, and the treatment and comparison groups have been established, the difference between the two groups’ average achievement will provide a good estimate of the impact of summer school.

After matching students and examining the differences between their two groups, I found **no statistically significant positive effects of attending summer school**. While the methodology I used gets us closer to estimating the effect of summer school than simply comparing students who attended summer school versus students who did not, the numerous limitations detailed in the next section prevent me from claiming that these results are the true effect of summer school. The majority of the limitations should lead us to believe that these results are **understated**.

A more detailed description of the quantitative methodology, the statistical results, and other methods considered, can be found in **Appendix A**.

Limitations

The most important drawback to the matched-pair approach is that even after matching summer school students to non-summer school students on observables, there is likely something systematically different between students whose parents enroll them in the summer school and those who do not.

For example, parents who enroll their children in summer school may be more “motivated” than parents of children who would qualify, but who don’t enroll. Enrolling requires an ability to navigate the system of resources BUSD provides, and a commitment to finding high-quality supervision. This would cause our results to look larger than they actually are, because the students who attended summer school would have performed better regardless.

On the other hand, there are many other reasons a parent might not enroll his or her child in summer school, including that he or she may actually choose to pay for alternative summer enrichment, or have a strong social or family network that provides high-quality care. This would make our results look smaller than they actually are, because the comparison students are making larger gains than our treatment group would were they not in summer school.

In addition to the unobservable differences between summer school participants and nonparticipants, there are not enough students in the nonparticipant BUSD population who share the same

observable characteristics as participants to match perfectly.⁵ Therefore, I employ a technique called propensity-score matching; this allows students who differ on a few observable characteristics to still be “matched” if their characteristics make them similarly likely to enroll in summer school. However, the two groups should still have relatively similar observable averages, and they do not. Again, this is because there are not enough students in the nonparticipant population who look similar enough to participants to adequately match.⁶

An additional potential source of bias is the year-round care that the BEARS program offers. The majority of the students who enroll in BEARS for the summer receive not only summer school, but before- and after-school care during the normal school year, which might have additional education benefits. This would make our estimate of the benefits of summer school alone look larger than it actually is.

Another important limitation is the absence of summer school attendance data. Attendance typically ranges from 50-80% on any given day of summer school, and our treatment group will include both students who had perfect attendance, and those who signed up but never actually attended summer school. This will make the effect of attending summer school look dramatically smaller than it actually is. If I had summer school attendance data, we could uncover the effect of actually attending summer school, whereas this analysis will only uncover the effect of signing up for summer school. This information is still valuable, because part of a program’s effectiveness is incentivizing attendance, but uncovering both effects would have been more informative.

Lastly, there are a number of variables not present in the data that limit the accuracy of this method. It would have helped to know how a student qualified for summer school. As will be described in greater detail in the next section, a student enters summer school because he or she was a BEARS student, an extended school year (ESY) student, or an “academic achievement” student. Because “academic achievement” students are recommended by principals, and therefore very different than their peers in ways that aren’t captured by measurable data, it would have been helpful to exclude them from the model.

2. Academic Advancement Program: Current Practices

While summer school serves grades K-12, this analysis is restricted to the elementary summer school program, which serves grades K-5.

Planning Process

Planning for the Academic Advancement summer school program begins in January each year. From January through May, the Extended Learning Department must secure site locations; hire principals, teachers, and support staff; distribute, collect, and process student applications; compile and finalize

⁵ In technical terms, the covariate balance was weak in some of the models employed, weakening the causal inference of this method.

⁶ This limitation is more present in some of the nine models used than others. Covariate statistics can be found in Appendix A.

student rosters; contact families; order and distribute supplies; coordinate with Nutrition Services; coordinate with Transportation; coordinate with literacy and Special Education programs; plan and conduct an orientation; and prepare the facilities for the four weeks of summer school that take place in June and July.

Aaron Jorgensen, Program Supervisor of Extended Learning, is in charge of this entire process in addition to overseeing the year-round BEARS and LEARNS programs. He coordinates with 3-4 administrative assistants for the month leading up to summer school, who devote over 50% of their work hours on preparing for summer school. The majority of this work is contacting parents and finalizing student rosters.

Teachers participate in a day-long orientation a few days before summer school begins during which they receive their rosters, room assignments, and expectations, and are given time to collaborate and plan.

School Location and Transportation

In past years, there have been two elementary school sites. These sites have changed from year to year based on building availability and proximity to the majority of prospective students.

Bus transportation is provided from non-host elementary schools to the summer school sites for students who do not usually attend the site schools. This year, a third site has been added. The three sites for 2017 are LeConte, Rosa Parks, and Washington Elementary Schools.

Students & Recruitment

The following groups of students are invited to join each year: (1) Students in the BEARS program⁷ and (2) students with Extended School Year (ESY) provisions in their IEPs, and (3) “academic achievement students” who are referred to the program by school site personnel.

BEARS students are given applications in early April, while the ESY and academic achievement students are contacted in late May. Many families of academic achievement students are not successfully reached. Administrative assistants stop attempting contact when summer school is at capacity. If a family specifically calls and requests to be let in after the program is “at capacity,” then space is made for that student. In practice, a smaller proportion of the students in summer school are academic achievement students; the majority are BEARS or ESY students.

Staff

Aaron Jorgensen, Program Supervisor of Extended Learning has been the director of all BUSD summer learning programs for the past two years (since 2015). Prior to that, Zachary Pless, who

⁷ The Berkeley’s Excellent Academic Road to Success (BEARS) program is a state-funded program for families with a demonstrated need for care and income requirement. Families with a demonstrated need for care who do not meet the income requirement have the option of paying for services.

founded an early version of the program in 2008, was the program director. The school principals are individuals completing their Masters of School Administration degrees at U.C. Berkeley.

There are typically twelve classroom teachers per school site, leading two classrooms per grade level K-5. The supply of BUSD teachers who want to teach summer school has historically been lower than the demand for teachers, so BUSD recruits teachers from nearby districts to fill remaining spots. Both schools have two special education teachers or “case managers” who serve the needs of the students who have ESY provisions, in addition to a Counseling Enrichment Class (CEC) and an Autism class. There are also Instructional Assistants (IAs) in the general education classrooms. These teachers and assistants only work during the morning, when academic instruction occurs.

UC, Berkeley students serve as literacy coaches and mentors through the BUILD (Berkeley United In Literacy Development) program. These tutors meet with students twice per week to provide one-on-one literacy coaching. This partnership has existed since the summer program’s inception.

In the afternoon, the program transitions from the Academic Advancement program to the BEARS Elementary School. BEARS teachers are in charge of recreation, enrichment activities, and supervision of the students. These individuals are the same teachers of the BEARS before- and after-school program during the regular school year.

Orientation

Staff orientation is held for five hours each year a few days before summer school starts. It is comprised of about an hour of overview and logistics, and two to three hours of instructional collaboration. Orientation typically includes classroom teachers, special education teachers, librarians, family engagement & equity coordinators, and academic content coaches.

Schedule & Duration

The Academic Advancement program operates for four weeks, or nineteen school days. The daily schedule is as follows:

Figure J. Academic Advancement Daily Schedule

Time	Activity
7:30 – 8:30	Students arrive, BEARS teachers supervise students
8:30-11:30	Academic instruction
11:30 – 12:30	Lunch
12:30 – 5:30	<i>BEARS Elementary School (recreational activities)</i>

BEARS students stay for the BEARS Elementary School in the afternoon, but all other students (ESY students and academic achievement students) only stay for the morning academic session. Typically, about half of the students leave after lunch.

Curriculum

Classroom teachers are given instructional freedom, but the Summer School program provides and suggests Eureka Math and Teacher's College Reading and Writing Program (TCRWP) curricula.

Budget

All district summer programming (including BEARS Elementary, Academic Advancement, the Middle School and High School programs, and Ramp-Up, a two-week early grades reading program) is funded by the following sources:

Figure K. Academic Advancement Budget Sources¹⁰

<u>Funding source</u>	<u>Amount</u>	<u>Primary Use</u>
Local Control Funding Formula (LCFF) Base Funding	\$90,000	\$7000 for Grades K-5 \$83,000 for Grades 6-12
Local Control and Accountability Plan (LCAP) Bridge Funding	\$18,000	Grades 6-12 transportation & nutrition
Title I Funding	\$25,000	Grades 6-12
Child Development Budget ⁸	\$275,000	Grades K-5 salaries and supplies
Special Education Budget ⁹	\$150,000	Grades K-12 special education services
Local Control and Accountability Plan (LCAP) Supplemental funding	\$30,000	Grades K-12 transportation & nutrition
Total funding	\$588,000	
K-5 funding estimate	\$372,000	

There is not clear documentation of costs that go toward the academic portion of summer school, which many students attend, and the afternoon enrichment portion of summer school, which fewer students attend. The district does not currently track summer school outlay data. We do know that

⁸ This is the state grant that pays for the BEARS program.

⁹ The portion of the budget secured by having ESY students.

¹⁰ The funding sources focused on the elementary programs are darkened.

this year, academic teachers will be paid \$205 per day of instruction, or about \$51 per hour.¹¹ Outlay information from 2012, the most recent year for which this information is available, is in **Appendix B**.

Summer school is currently provided free of charge to non-BEARS students, while BEARS students pay the same hourly rate as they do for after school care.

Other BUSD summer programming

BEARS Elementary School is available to BEARS students for the entire summer. The programming is the same as the afternoon programming available to them after the Academic Advancement morning session.

The Ramp-Up program is available to rising 1st-3rd grade students below grade level in reading for two weeks preceding the start of the school year. This time does not overlap with the Academic Advancement session.

3. Achieving High Quality: Best Practices

This section of the report examines research dedicated to finding “what works” in summer learning programs in order to compile a list of best practices. Some research uses statistical methodology to establish best practices, while others are purely observational. The best practices below are featured in both types of literature.

Program Infrastructure

Planning: start early.

The most effective summer learning programs start planning for the next session immediately after the previous session concludes (Cooper 2000; McCombs 2011; Newhouse 2013; Bell 2007; Borman 2006). These programs are able to immediately reflect on what went well and what didn’t, and incorporate these lessons into their improvement plan for the next summer.

Summer teachers and staff are involved early in the planning process, which is achieved by hiring principals no later than January and teachers no later than February (Augustine, 2013). High-quality district programs typically meet with all hired staff in February to handle hiring paperwork and to familiarize them with the preliminary plans, and meet regularly with principals throughout the spring to establish consistency between layers of leadership. High-quality programs often have a booklet or packet of information for principals upon their hire. This information includes general procedures and expectations that the site principal can then build upon for his or her specific site.

¹¹ This is an increase from \$195 per day from last year as the result of union negotiations.

Successful programs tend to have firm enrollment deadlines, an organized, electronic system for tracking attendance set up in advance, and provide time for teachers to set up their classrooms in advance. This allows for a smoother first week, which is essential for programs so short in duration like summer school (Augustine, 2013).

Lastly, programs that want to infuse enrichment with academics are more successful when they devote as much time to planning enrichment as they do for academics.

Partner with community-based organizations.

The most successful summer school programs take advantage of community partnerships (McCombs, 2011; Bell, 2007; Newhouse, 2013). Community-based organizations (CBOs) can be leveraged to provide (a) high-quality, personalized field trips, (b) on-site enrichment opportunities, and (c) private funding.

CBOs can include local governments, volunteer tutoring groups, museums, and nonprofit organizations that specialize in summer or enrichment learning. Some types of CBOs, like volunteer tutoring groups, improve students' academic experience for free. Working with CBOs that host field trips or specialize in enrichment learning can set summer school apart from the normal school year, and provide low-income students with enrichment opportunities that narrow the "opportunity" or "exposure" gap (Augustine, 2013). CBO programming often makes summer school more fun, which not only incentivizes attendance (an important component to learning from summer school), but also helps students make valuable connections between the classroom and real-world experiences.

Some programs that struggle with planning capacity or expertise benefit from contracting this work to nonprofit organizations that specialize in summer programming.

Make your money go further.

Title I funds, 21st Century Community Learning Centers grants, Child Care and Development Fund grants, and HUD Community Development grants are common sources of summer school funding (McCombs, 2011; Boss, 2002; "2016 Funding Resource Guide: Summer Opportunities; Augustine, 2013). Less common sources of federal funding include Title II Part A, which can be used in summer school if the program incorporates professional development for teachers, and TANF dollars (2016 Funding Resource Guide: Summer Opportunities).

Enlisting the help of CBOs is another way to increase funding for your program. As was mentioned in the previous section, some CBOs volunteer their services, lowering the student-adult ratio and improving quality at no extra cost. Other CBOs provide staffing or services that would be much more expensive for a program to provide in-house. The Teach Baltimore program saves significant instructional costs by employing teachers-in-training from nearby Johns Hopkins University, who receive an education award from AmeriCorps (Borman 2006). CBOs with a philanthropic bent might eventually provide services at a lower cost than they normally do, especially when the summer program is targeted to low-income students or the vision of that program is clear and compelling.

Lastly, some CBOs will simply donate funds to help support the program. Some programs have obtained funding from relevant city departments. For example, one program obtained funding from its local police departments by arguing that summer school participation improves youth safety over the summer (McCombs 2011).

In addition to maximizing funding for their program, successful programs ensure their dollars are going as far as possible. Most importantly for summer programs, this means making sure kids show up. Dollars invested in summer school are wasted if students don't regularly attend (Borman, 2005; Augustine, 2013). Programs also achieve a higher return on their investment when they hire teachers and staff with a track record of success, and only hire for positions that create a high value-added for students (Augustine, 2013).

Another cost-savings strategy is to focus on spreading fixed costs (Augustine, 2013). This can be achieved by enrolling more children, consolidating to fewer sites, and/or increasing the length of summer school, when feasible. These all make the per-hour, per-student costs lower. In addition to lowering costs, having fewer sites is associated with larger student gains (Cooper 2000). This is likely because administrative energy isn't spread between as many sites.

Lastly, it is important to track where dollars are going and use that information to aid in future programming decisions to ensure your program is achieving the highest possible "bang-per-buck" (Augustine, 2013).

Evaluation & commitment to improvement.

Some programs focus on rigorous evaluation methods to drive their improvement goals (Bell, 2007), while other programs focus more on observational evaluation. Regardless, successful programs are systematic in their approach to making each summer school session better than the last, which is incorporated throughout the planning process.

Student Learning

Small class sizes and individualized instruction.

The recommended class size for summer school is 20 students or fewer. Summer programs that prioritize individual and small group instruction are associated with larger learning gains (Cooper 2000; McCombs 2011). The actual class size may be more important than the staff-student ratio, unless classroom assistants receive the same orientation training as the classroom teachers (Augustine, 2013).

Summer programs that focus on low-income, low-achieving, or special education students often make the mistake of de-emphasizing differentiation, because all of their students are "low". However, students behind grade level still have wide variation in their levels of understanding (Augustine, 2013). Additionally, it is unwise and inappropriate to conflate low-income with low-achieving, even

though we often see that there are disproportionately more low-income students below grade level. A strong focus on differentiation and individualized learning should be part of any successful summer school program.

High-quality teachers and teacher training.

Just as hiring the right teachers for the regular school year is of the utmost importance, high-quality teacher recruitment matters for summer learning success (McCombs, 2011). High-quality programs base their hiring decisions on principal recommendations and school-year evaluations, and do their best to assign teachers to a grade level with which they are familiar (Augustine, 2013). Students taught by their teacher from the previous year made larger gains than their peers (Roderick, 2003).

High-quality programs ensure that teachers are trained and properly prepared to use the summer school curriculum. A minimum of three hours of training each for literacy and math is recommended. If this training takes place during an orientation that will also handle logistics, the logistics information should be made available first so that teachers can focus on the curriculum training (Augustine, 2013).

High-quality program directors and principals meet with newly-hired summer school teachers in the months leading up to summer school as is recommended above in the “Planning” section of this report. This ensures that teachers are both more comfortable with the logistics of the program, and have their voice incorporated into the planning process. That way, orientation can be focused on curriculum training, collaboration, and classroom set-up (Augustine, 2013).

Clear program focus, with instruction aligned accordingly.

Many summer programs make the mistake of believing the goals of summer school are obvious, and don’t explicitly articulate the focus. High-quality programs have a clear vision and sense of purpose (McCombs, 2011). Summer learning goals typically fall into one of the categories listed below (Augustine, 2013).

1. *Remediation*: If a summer school program chooses to focus on remediation, then the academic programming should align with the previous years’ curriculum.
2. *Preparation*: Alternatively, academic programming could provide a preview to the upcoming years’ curriculum to prepare students for new material, and improve their confidence and performance in the upcoming school year.
3. *Social-emotional learning and behavior*: the stated goal of some programs is to focus on teaching and improving positive behaviors during the summer.
4. *Enrichment*: organizations like Partnership for Children and Youth (PCY) advocate for making summer learning feel different from the academic school year to increase engagement and real-world connections.

Once a program has clarified its purpose(s), daily activities should be aligned accordingly.

Districts also differ on which students they prioritize on enrolling; for some schools, low-income students are the target, while for others, the lowest-achieving students are prioritized. While there is

unfortunately significant overlap, the two categories of students should not be discussed interchangeably. In successful programs, the purpose and population of summer school are explicitly and purposefully stated, and direct programmatic choices.

While no one curriculum stands out in the literature as being the best for summer school instruction, using commercially-developed and tested curriculum can save time and money for district programs (Augustine, 2013).

On average, a focus on math instruction during the summer results in larger math gains than summer literacy instruction on literacy gains (Cooper, 2000; McCombs, 2011). Interestingly, the summer learning difference between low-income students and their peers in math is much smaller than the difference in literacy. Therefore, a school may want to focus more on math if its goals are to measure progress and give low-income kids the potential to even accelerate ahead of their peers in a subject, which could increase confidence. On the other hand, literacy skills are more predictive of improved life outcomes, and low-income students are most likely to lose these skills over the summer, so a program could choose to focus more heavily on literacy skills.

Monitor and incentivize attendance.

Attending summer school is necessary for students to make learning gains (McCombs 2011; Borman 2006). Summer programs that focus on incentivizing attendance achieve a higher return on their investment. The easiest way to improve attendance is to make the experience positive and engaging for students. However, you don't have to "hide" the academic portion of your program to make it engaging; high attendance is found in both highly enrichment-focused and academic-focused programs (Augustine, 2013). Some schools incentivize attendance more explicitly by providing prizes on Fridays for perfect weekly attendance (McCombs 2011).

Interestingly, a summer school simply collecting attendance data is associated with higher student gains (Cooper 2000). This is likely because monitoring attendance allows a program to implement an incentive system, or call home to encourage students to attend more regularly.

4. Current Program Quality & Opportunities for Reform

It is clear from my conversations with people around the district, and from survey responses of parents and teachers, that the Academic Achievement program adds value to the lives of students, parents, and staff. Many parents expressed their gratitude for having this program available to keep their children learning and having fun while they worked. Staff members detailed many moments of joy in their work with struggling students, and in their collaboration with each other. BUSD's investment in summer learning shows its commitment to preventing summer learning loss, and through that, a commitment to the students who need this enrichment the most. However, the program has huge potential for growth in many areas, which I will analyze in this section.

For each of the following domains, I evaluate the district's current **performance**. In addition, I evaluate the domain's **salience** in parent and teacher surveys¹², **importance** in driving quality improvement¹³, and **time and effort** required to reform this domain¹⁴. In my recommendations, I prioritize focusing on domains with low performance, high salience, high importance, and low time and effort required.

Program Infrastructure

Domain: Planning: start early	Performance: Low
	<i>Salience: 3</i> <i>Importance: 3</i> <i>Time & effort: 3</i>
<p><u>Current performance</u></p> <p>The most common theme across the summer school literature is the importance of planning. For high-quality programs, planning starts as close to the day after the previous session as possible. Although preliminary planning meetings begin in January, the summer school planning timeline is very much concentrated in the 1-2 months leading up to the start date. This is largely because there is incredibly limited staff capacity. Aaron Jorgensen, the sole individual tasked with planning and running both the BEARS Elementary School and the Academic Advancement programs each year, must spend the majority of his time during the school year running the BEARS and LEARNS after-school programs. In fact, the Academic Advancement program isn't an official part of his job, and he performs this duty out of a commitment to year-round student learning and engagement.</p> <p>Planning a summer school is essentially like "building a school from the ground up"¹⁵. A few individuals in the district office and administrative assistants in a few schools pitch in to accomplish the core necessary tasks, primarily enrollment processes. However, despite the commitment and hard work of these individuals, there is ample evidence that the hours dedicated to planning summer school are insufficient. Academic achievement students frequently do not enroll because they cannot be reached after one call, and there is no time to make further attempts to contact these students. While there have been improvements in the core functions of the program, there have not been significant structural changes to the program since its inception. High-quality</p>	

¹² As measured by critical feedback in parent, teacher, and staff surveys. Salience = 3 if 6+ references. Salience = 2 if 3-5 references. Salience = 1 if 0-2 references.

¹³ Importance = 3 if it is an essential component to quality improvement. Importance = 2 if it is a key driver of improvement, but is of secondary importance to the essential components. Importance = 1 if it is not essential, but seen across almost all high-quality programs.

¹⁴ Time & effort = 3 if reform requires an estimated additional 15+ hours per month. Time & effort = 2 if reform requires an additional 5 - 15 hours per month. Time & effort = 1 if it requires less than 5 additional hours per month.

¹⁵ Phrase borrowed from Zachary Pless, founder of the Academic Advancement program

programs are able to reflect, evaluate, and make positive changes from each year to the next. Despite the incredible commitment and capabilities of its district staff, BUSD lacks the time to do more than core implementation duties.

For comparison, Oakland Unified School District has an individual whose full-time, year-round job is planning summer programs. This person is supported by interns, Americorps volunteers, and consultants, and the majority of the afternoon programming is actually contracted out to lead agency CBOs¹⁶. While OUSD's summer programs serve more than seven times as many students, it easily has more than seven times as much planning capacity. Like BUSD, Hillcrest Elementary School in San Francisco has one individual tasked with overseeing both after school and summer. However, this person is technically an employee of the YMCA, Hillcrest's lead agency CBO, and the YMCA handles core tasks such as enrollment and the budget. Most importantly, she oversees one school site, as opposed to Aaron's eight during the regular school year and four to five (including Middle and High School) during the summer. *For more information on model summer school programs, refer to **Appendix C**.*

BUSD's staff hiring timeline is later than is recommended. Academic Advancement teachers are hired in May, whereas the recommended staffing date is no later than February. The district could benefit from moving up its enrollment timeline. Administrative staff struggle to contact all parents before the start of the program, particularly non-BEARS students whose applications go out in late May. The lack of an enrollment cutoff date is problematic for planning purposes, primarily for teachers, who are unable to rely on reliable rosters until a week into the five-week program.

Once the program starts, teachers and parents felt the program suffered from some disorganization that could be solved with more planning bandwidth. In the 2016 session, some teachers noted an improvement in organization from the previous year, but many others cited confusion in the first week of school.

One planning practice that wouldn't require too much additional work is creating a system of passing on accumulated knowledge from year to year. This is especially true for school principals, who as interns, are personally trained and guided by Aaron and others, but who could also learn from their predecessors. A few teachers noted that the principals were "reinventing the wheel each year," rather than taking advantage of practices that worked well the previous year.

Quotes from parents and teachers

"Once the class lists were settled, things moved well."

"The program seemed to be a lot more organized this summer."

"The summer school program needs to be more organized, and provide more information for staff,

¹⁶ "Lead agency" CBOs are those that are contracted to do the vast majority (>90%) of summer school programming responsibilities.

and parents before summer school starts.”

“More organization at the beginning. There seemed to be a lot of confusion about meals and coordination with the Bears folks.”

“Teachers need to be told in advance what they will/will not get (supplies) in advance. Meaning before they are required leave their home sites and turn in classroom keys.”

Domain: **Partner with CBOs**

Performance: Medium

Saliency: 1

Importance: 1

Time & effort: 1

Current performance

BUSD has partnered with the BUILD Literacy program since the Academic Achievement program's inception. This partnership increases individualized instruction time for students at no cost to the district. One teacher suggested that the timing of individual tutoring could be timed more strategically, since some students were upset at being pulled away from their peers during games, but overall, this is a strong and valuable partnership.

YouthWorks, an employment program for Berkeley youth through the City's Housing and Community Services Department, provides summer school assistants. These individuals are mostly high school students and young adults who provide additional supervision and mentorship, free of charge from the perspective of the district. The quality and dedication of these individuals varies widely. Some of the YouthWorks participants form meaningful relationships with students, which is especially valuable when a student's teacher struggles to do so. However, there is also anecdotal evidence of some participants being disengaged and unmotivated.

BUSD also has a strong partnership with the Principal Leadership Institute (PLI) at U.C. Berkeley. The principals of the Academic Advancement program are interns supplied by this program. These are motivated individuals early in their school leadership careers, but often with years of education experience, and they cost the district less money than the program's teachers. In fact, the benefits of working with PLI interns extends beyond summer school; three current BUSD principals completed their PLI internships through the Academic Achievement program.

What Berkeley is lacking is CBO partnerships that provide enrichment. There are no formal field trips planned, apart from swimming lessons. BUSD's program also lacks private funding partners and City support. It takes time to research a CBO that would be a good fit with the program, cultivate a relationship, and iron out the details of that relationship. Like many of the program's shortcomings, this is due to lack of planning capacity.

Quotes from parents and teachers

"I really do love seeing the college mentors have a meaningful reading session with a student. When they can share a love of reading with them and students are excited to go and read with their mentors, we know that program is affecting our students."

"We enjoy having youth workers, without the attitudes and...willing to work not just goof off."

"The summer school could be better by providing...more field trips, interesting ones (because exposure and interest for children shouldn't be limited for any reasons)."

Domain: **Maximize funds and minimize costs**

Performance: Medium

Saliency: 1

Importance: 1

Time & effort: 2

Current performance

The district's financial commitment is evident through its use of state funding toward summer school. BUSD's use of CBOs to provide school leadership and literacy tutoring is a creative cost-saving measure.

However, the district does not track costs or outlays, preventing an analysis of cost-effectiveness compared to other programs, or discussions about how the program could re-optimize spending. There may be easy cuts or line items that merit more funding.

BUSD does not currently leverage of any private or nonprofit funding, other than the pro-bono BUILD literacy tutoring and YouthWorks assistants.

The program charges BEARS students their normal hourly rate during the Academic Advancement program, while ESY and academic achievement students attend summer school free of charge. It would be helpful to understand what portion of students belong to each of these subgroups, but unfortunately, this data isn't collected. It is sensible that ESY students should not be charged for summer school, since these services are part of their IEPs. However, the district should consider whether or not the policy of charging BEARS students and not charging academic achievement students should be sustained.

At first glance, this policy seems quite inequitable, that some students should pay while others should not. However, the academic advancement students are typically those who are classified as most at-risk by their principals, and may be deterred by a fee. In the short-term, it makes sense cross-subsidize summer school from those more willing-to-pay, to those less willing-to-pay.

However, I feel that as a long-run strategy, this inequity may undermine the reputation of the Academic Advancement program.

Domain: Evaluation and commitment to improvement	Performance: Medium
	<i>Saliency: 1</i> <i>Importance: 2</i> <i>Time & effort: 2</i>
<u>Current performance</u> <p>By contracting this study, it is clear that the district has a commitment to improvement. Additionally, feedback was collected from teachers and parents at the end of last school year, and a stakeholder meeting was convened in March to help plan for the upcoming year.</p> <p>Until now, no formal evaluation of the program has been conducted. BUSD staff meet with teachers and principals after summer school concludes to reflect on what went well and what didn't, and incorporate that feedback in its plans for the next year. However, there is currently insufficient capacity to work on more than small adjustments and core responsibilities. The summer program does not currently use student data to make strategic decisions, observational data to drive a quality improvement plan, nor, as was discussed in the previous section, budget data to improve cost-effectiveness.</p> <p>As was mentioned earlier, BUSD does not have a system for transferring the accumulated knowledge of past principals. This would be an easy way to help the program improve over time.</p>	
<u>Quotes from parents and teachers</u> <p><i>"I suggest for the administrator and/or veteran summer school staff to pass along procedures for the next principal for the 2017 summer term in order to keep the program somewhat consistent from year to year."</i></p>	

Student Learning

Domain: Small class sizes and individualized instruction	Performance: Medium
	<i>Saliency: 3</i> <i>Importance: 3</i> <i>Time & effort: 2</i>
<u>Current performance</u>	

The district hires two classroom teachers per grade level per school, and enrollment per class ranges widely, but the average class roster has 25 students. The daily class size is typically significantly lower due to absences.

Instructional assistants, BUILD mentors, and special education teachers lower the student-teacher ratio and provide individualized instruction for students.

The program recruits students who are more likely to be low-income, have an IEP, be ELL students, and/or be lower-performing academically, and therefore require more individualized and differentiated instruction. In addition, the frequency of absences and the short duration of summer school means that teachers aren't able to get a good understanding of students' learning needs to enable quality individualized instruction. BUSD does not currently provide teachers with students' academic history; once teachers get to know their students' individual needs, the program is likely nearly over.

Quotes from parents and teachers

"Small class size made management much easier"

"I felt my students were successful everyday, we played a lot of math games that allowed them to practice a variety of skills. My students loved these games, they had fun and learned at the same time."

"I felt that the IA's were a fantastic resource, and helped to make the classroom run smoothly by allowing students to receive a high level of individual attention. I felt very supported by the IA's and the administration as well."

"I feel as though the students that don't have IEP's don't get much from the program because many resources are put into managing the SPED Students."

"It takes about 2 or 3 weeks just to get to know the kids and where they are academically, maybe a little more info on their individual levels would be good if possible."

"Teachers need to know what math skills each student comes in with, not what the grade level expectation is. Rather than group lessons, there needs to be much more individual work, requiring many more IA's, or teachers working in pairs per class."

"We need in our hands on day one detailed assessment records for each student's (copy of last trimester report card would be really helpful) I spent a lot of time assessing so I could offer specific remedial help. I could have accomplished much more if I knew exactly what weak content areas to address with each student."

"It would...be nice to have access to the students IEPs prior to school starting in order to make sure

that I can make accommodations and modifications for them prior to summer school starting.”

“BEARS combined with regular Summer School and Special Education is a bad idea...It doesn't matter if you have 6 adults in a room when so many students have a variety of individual needs.”

Domain: **High-quality teachers and teacher training**

Performance: Medium

*Saliency: 3
Importance: 2
Time & effort: 2*

Current performance

The surveys contained as many positive comments about the quality of the teaching staff as criticisms. A few comments focused on a perceived lack of cultural competencies, conflict resolution skills and developmentally-appropriate teaching methods.

In the past few years, there have not been enough BUSD teachers applying to teach summer school to fill the positions. In fact, in the elementary school, only about half of teaching positions were filled by BUSD certified teachers. The empty positions are filled by teachers in other districts, and in a few cases, BEARS teachers serve as academic teachers in the morning.

BUSD holds a day-long orientation for teachers a few days before summer school begins, and does not hold meetings in the months leading up to the program except to process hiring paperwork. The orientation is a chance for core staff to learn about the logistics of the program and collaborate informally, but many key staff members are missing which leads to confusion and a lack of coordination once the program starts. Instructional Assistants are noticeably absent from orientation, preventing these staff members from learning the curriculum and getting to know the teachers with whom they'll be working. In addition, many classroom teachers expressed a desire to get to know the BEARS staff, and vice-versa. In response to this feedback, BEARS teachers may be invited to orientation this year.¹⁷

Quotes from parents and teachers

“I enjoyed working in the summer program because everyone was collaborative and supportive.”

“I.A.'s and Afternoon Teachers need to be at training/meeting with morning teachers.”

“It would have helped to be provided more information about the BEARS program so I could better coordinate staff and help parents understand where their kids would be throughout the day.”

¹⁷ BEARS teachers still have to teach BEARS Elementary on the day of orientation, so they would have to attend orientation in shifts and/or get coverage for this day.

"I think we should have a meeting with all of the IAs [instructional assistants] and teachers prior to the first day."

"There seems to be more focus on staffing issues/seniority/hours/etc, instead of the actual kids!"

"Bears IA's, and special Ed IA's need to be a part of the staff meetings before summer school begins. Having staff that is qualified and organized to work with students and staff."

"In the future please hire people who know how to create DAP curriculum and activities for young children."

Domain: **Clear program focus & alignment**

Performance: Low

Salience: 3

Importance: 2

Time & effort: 2

Current performance

There is no formalized mission or vision statement for the program, but the stated purpose of the Academic Advancement program is to stem summer learning loss and provide enrichment opportunities for low-income students. However, the recruitment decisions are not strictly aligned with this stated purpose, as some students who are not low-income are also invited, including some BEARS students who do not qualify for fully subsidized care, some academic achievement students, and students with IEPs who are not low-income. Frequently, low-income and low-achievement are conflated in conversations surrounding the Academic Achievement program within the district.

Parents were split on whether they thought summer school should be more academics- or enrichment-oriented.

In the past, staff orientation included a "why are we here?" speech by equity coach Pamela Harrison-Small, although this hasn't happened for the past few years. This is an excellent example of how BUSD has and should continue to infuse meaning and focus into the program. However, some teachers have expressed that the ultimate goal of the program was somewhat unclear. Providing the entire staff with an even clearer vision and sense of purpose can help drive their daily activities and make the experience feel more rewarding.

Teachers are provided with the evidence-based¹⁸ Teacher's College Reading and Writing Program (TCRWP) Reading Curriculum and Eureka Math units, which they are encouraged, but not required to use.

Quotes from parents and teachers

"Maybe more of an idea of what we were hoping to cover in Summer School, although I liked being creative and having the flexibility."

Domain: **Incentivize and monitor attendance**

Performance: Low

*Saliency: 3
Importance: 3
Time & effort: 1*

Current performance

BUSD does not monitor attendance, and there is no formalized, program-wide strategy to incentivize attendance. The informal incentives are high-quality instruction and enrichment.

Quotes from parents and teachers

Monitoring:

"It would be helpful for attendance if support staff would contact the homes of absent students, the first couple of days or during the first week."

"The roster for my class was never correct, and the first two days were really hectic because of that."

Incentivizing:

"My daughter's class went to picnic in the park. She told me it was a best day of summer."

"As for the summer program, I LOVED the structured curriculum the students had during this time. My child enjoyed doing the work, and balance between work and play"

"I felt my students were successful everyday, we played a lot of math games that allowed them to practice a variety of skills. My students loved these games, they had fun and learned at the same time."

¹⁸ <http://www.readingandwritingproject.com/public/themes/rwproject/resources/articles/ResearchBase1.pdf>

Limitations

A major limitation of this analysis is that I have not had the privilege of observing summer school, nor the month leading up to it during which the majority of the planning takes place. Therefore, my analysis relies on planning documents and data, parent and teacher surveys, interviews, and informal conversations with those involved in the summer school process.

An important limitation of the survey data is that the surveys were entirely voluntary. I suspect that the individuals who completed out the survey had a particularly positive or negative experience, compelling them to complete the survey. Additionally, the types of people who always fill out surveys are likely unrepresentative of the entire group whose opinions we wish to capture. Therefore, these survey results will be used to illustrate the opinions of particular individuals, and highlight repetition in feedback, but the feedback is unlikely to be representative or complete.

5. Barriers to Success

Lack of planning capacity.

Implementing best practices well will require more hours than the district is currently devoting to summer school. Nearly every program shortcoming stems from this as a root cause.

Lack of attention and recognition.

From conversations I had with individuals around the district, it is clear that many lack awareness that this program exists, and others only have a vague sense of its existence. The lack of recognition of such a large-scale program intended to help struggling students can be demotivating, and creates a barrier to attracting more teaching talent and broader community support. District leadership should take on the task of advertising this program as a huge achievement that the district is proud of, and herald it as one of the many ways the district is working to improve equity in education.

However, this barrier can also be attributed in part to insufficient communication between summer school program leaders and regular-school-year leaders. Communication with principals has been inconsistent in the past few years on how to recommend academic achievement students, as well as general information on a large summer program in which many of its students will participate.

“There (sic) needs to be clear communication with yearly school staff about how summer school works.”

“The [best thing about summer school is the] fact that we have summer school and the children can continue learning.”

Low teacher supply.

While teachers could and should always be paid more than they are for their work, the consensus is that the pay for summer school is generous. Teachers cite school-year burnout and the need to mentally recuperate as reasons for not applying to teach summer school. However, other summer programs have less trouble attracting teachers to teach summer school. Leaders of high-quality programs believe they attract high-quality teachers for the following reasons:

1. *Word of mouth.* Teachers are more likely to apply if they hear it is a positive experience from their coworkers. By putting work into ensuring teachers have a positive experience, the district can increase teacher supply for future sessions.
2. *Framing as professional development opportunity.* Mountain View frames summer school as a chance for teachers to have the freedom to try new ideas, and encourages them to use “what worked” in summer school in the school year. Teachers leave with an increased sense of purpose and excitement for the coming school year.
3. *Using non-credentialed teachers.* Teacher burnout is a larger issue that may be unavoidable; many teachers simply need the summer months to take a break from teaching. Therefore, many programs focus their energy on training non-credentialed teachers to provide high-quality programming for the entire program.

Another factor influencing the supply of BUSD teachers is the fact that the summer school sites change every year or every few years. Teachers are more likely to teach summer school if they can use their own classroom, rather than having to move their supplies across town and use a strange classroom. There is anecdotal evidence of teachers teaching summer school for several years, and quitting when the site is no longer their home school.

School sites are currently chosen primarily on logistical grounds; schools undergoing summer maintenance, for example, can't be the host site. Sites are also chosen based on where most students likely to attend live. However, it might be wise to also consider which school has the most teachers interested in teaching summer school, and committing to stay at that school for as long as possible to ensure high-quality summer school teachers are retained from year to year.

6. Alternatives

The following alternatives represent the district's options moving forward. Each of these alternatives are considered based on their likely impact on program quality, and ranked accordingly (with 5 = highest quality). I also rank the estimated cost efficiency of each option (with 5 = lowest costs).¹⁹ The first three alternatives are iterations on the “status quo,” while the last two would shift the core program infrastructure.

Reform existing practices. The district can work toward achieving the aforementioned documented best practices to improve program quality. Experts advise pursuing no more than three goals per cycle. This option would incur little additional cost. However, as was previously mentioned, the

¹⁹ For detailed sample budgets from PCY's Summer Matters campaign, visit <http://www.summermatters.net/planning-your-program-3-designs-for-summer-learning-programs/>

program's lack of planning capacity is a serious barrier to success. While this option has the potential improve program quality relative to now, the magnitude of improvement is limited.

- Impact on quality: 1
- Cost efficiency: 3

Increase in-house planning capacity to facilitate reform. To overcome this barrier, the district could either hire an additional staff member to focus entirely on summer school as is the case in Oakland, which could be a teacher on special assignment, or reorganize responsibilities among existing staff to allow more time for summer school planning throughout the year. This option would remove the district's most significant barrier to success. However, one important quality drawback of this option is that district staff likely lack the experience in summer planning and implementation that some of the other options offer.

- Impact on quality: 2
- Cost efficiency: 1

Hire a technical assistance provider to increase the efficacy time spent planning summer school. Organizations like Partnership for Youth & Children (PCY) provide individualized technical assistance for summer learning programs. They conduct observations and guide the improvement process for program leaders. PCY was provided these services to all three of the model programs featured in **Appendix B**, and their summer learning philosophy can be found in **Appendix D**. This option would allow BUSD to retain its current structure, avoiding the costs of a reorganization, while providing necessary support to drive program improvement.

- Impact on quality: 4
- Cost efficiency: 2

Shift the program to more experiential learning with non-credentialed teaching staff. BUSD could alternatively decide to alter the focus of summer school to closing the "experience gap" between its low-income and high-income students. In addition to being a worthy goal in itself, there is some evidence that this approach can indirectly improve academic outcomes. The theory behind this approach is that student connections with real-world experiences facilitate deeper thought during classroom lessons, and low-income students are often unable to make those connections. Hillcrest Elementary School in San Francisco embraces this approach, and is able to fund multiple field trips each week by staffing with non-credentialed teachers. This alternative could be paired with alternatives 2 or 3 to ensure good implementation and adequate time for planning this shift.

- Impact on quality: 3
- Cost efficiency: 4

Contract implementation out to a lead agency. When districts or schools chose to contract the vast majority of summer school programming responsibilities, this contractor is referred to as a "lead agency." The Bay Area has dozens of organizations that specialize in high-quality summer learning. Selecting a provider is done through an RFQ (request for qualifications) process, typically in the late summer or early fall. Similarly to the previous alternative, this alternative would offset the costs

needed to pay credentialed teachers through union negotiations,²⁰ and would likely be less expensive than the status quo. This option would mean relinquishing control of the program and refocusing this energy on monitoring the lead agency.

- Impact on quality: 5
- Cost efficiency: 5

Of course, an additional alternative would be to eliminate the program. While this analysis does not include evidence of life-changing outcomes for summer school participants, finding “no effects” for an education intervention is not unusual, and the limitations of the data make it difficult to determine what these students’ outcomes would be did this program not exist. Given that the work has already been put in to establish this program, I firmly believe the path forward is improvement, not abandonment, of this program. The only reason the district should consider this alternative is if there is another intervention program in desperate need of these funds that is proven to improve academic outcomes for the same students currently being served by this program.

7. Recommended Next Steps

I believe that the initial investment required for **Alternatives #3, 4, or 5** would pay off in the form of increased quality and long-term cost savings. I will leave it up to the district to decide which of these alternatives makes the most sense with its goals for the program and ability to dedicate necessary up-front funding.

If the district decides to pursue alternative #5, then the specific responsibilities remaining for district staff will be negotiated, and the following recommendations would only apply to those remaining responsibilities. Otherwise, the following recommended next steps are ranked from highest priority to lowest based on the criteria of current performance, salience, importance, and time and effort required to implement. See Appendix D to see how I prioritized these recommendations. The district should focus on no more than three recommendations per year; trying to attack too many problems at once will result in not implementing any of them very well.

1. **Monitor attendance and keep electronic records.** The attendance system should be designed well in advance of summer school, with rosters entered and ready for teachers on the first day.
2. Get students on the roster show up.
 - a. **Create a program-wide system to incentivize attendance.** This could include prizes, field trip priority, or fee discounts for parents.
 - b. **Set an enrollment cutoff date,** and make it very clear on the application. Spend the time between the enrollment cutoff and school start date to call parents and ensure they are still planning on sending their child to summer school so that rosters are as accurate

²⁰ A lead agency may still hire credentialed teachers, but would not have to settle the salary amount through the district’s teachers union.

as possible on the first day. Also take this opportunity to explain the attendance incentives to parents.

3. ***Compile student data profiles of all summer school attendees, and distribute to teachers.*** The BREA team will have to generate these profiles between the enrollment cutoff date and the start of summer school. They should be made aware of this task and quick turnaround time well in advance.
4. ***Conduct a survey of BUSD elementary teachers*** to determine factors influencing their willingness to teach summer school. Use the results of this survey to strategically recruit and retain high-quality teachers.²¹
5. ***Draft mission and vision statements with input of stakeholders***, and use it as a guide for future decisions.
 - a. Consider changing the name of the program to better align with mission and vision.
 - b. Refer to mission and vision statements often to ensure that all student recruitment efforts, programmatic choices, and pedagogy are aligned.
6. ***Move hiring timeline up, and hold additional meetings prior to orientation*** to simplify the hiring paperwork process and allow principals and their staff to meet and discuss expectations. These additional meetings could also serve as a forum for getting everyone invested in the mission of the program so when orientation starts, everyone shows up with a feeling of purpose. Orientation can then be dedicated to curriculum training and preparing the physical space for learning.
7. ***Invite all individuals who work with summer school students to orientation***, including instructional assistants and BEARS teachers.
8. ***Establish a consistent method of communicating with school principals.*** Each year, principals should be asked for teacher recommendations (specifically for teachers gifted in working with summer school target population) and student recommendations, and kept aware of the higher-level details of this program.
9. ***Start the search for CBOs by creating a list of field trip sites aligned with program's goals.*** Relationships with field trip host organizations are a good place to start “selling” your program’s mission to the community. These organizations can provide discounts on future field trips if they feel invested in your program’s mission, free promotion for your program on their website, on-site enrichment activities, and possibly additional private funding.
10. ***Create a separate summer school-specific financial tracking system.***

²¹ For alternatives #1, 2, or 3

11. **Create a more equitable fee policy** to ensure that BEARS students aren't systematically charged more than academic achievement students. I recommend including "scholarship" slots each year to avoid deterring the most needy students from summer school, but having all students be eligible for these scholarships, including students currently in the BEARS program. Aside from these slots, non-BEARS students should pay the same fee as BEARS students. If the district is able to secure private funding, the hourly rate for the Academic Advancement program could be lowered for all students.
12. **Reach out to the City of Berkeley and make the case for city support.** OUSD and SFUSD school summer school programs benefit from funding from city initiatives to support childhood outcomes (the Oakland Fund for Children and Youth, and the Department for Children, Youth, and their Families, respectively).
13. **Build a method for annual evaluation into the program.** If the mission of the program remains academic, students should be given a brief pre- and post-assessment²² to track whether students maintained, gained, or lost skills over the course of summer school. Continue giving parent and staff surveys, and introduce student surveys.

Conclusion

Without the Academic Advancement summer school program, many families in BUSD would be worse off than they are currently. This program provides an invaluable resource to parents and students with limited access to learning and enrichment opportunities during the summer months. A few dedicated individuals in the district have made this program happen year after year. While this report cannot conclude that there are measurable, long-lasting, academic effects of participating in summer school, the inherent limitations do not allow me to conclude that none exist. Additionally, there are likely unmeasured benefits of this program, including reduced family stress and improved social-emotional skills that this report could not capture.

BUSD is a leader in pursuing equity in education. The growing body of evidence on summer learning loss means that providing summer services is an essential piece of continuing to be an equity leader. The recommendations in this report can be used to take a great district service and make it even better at improving outcomes for all students.

²² The Diagnostic Online Reading Assessment (DORA) and San Diego Quick Assessment of Reading Ability are recommended because they are brief and easy to administer in such a short program.

Appendices

Appendix A: Quantitative analysis methodology details and results

Figure L. Quantitative data variables

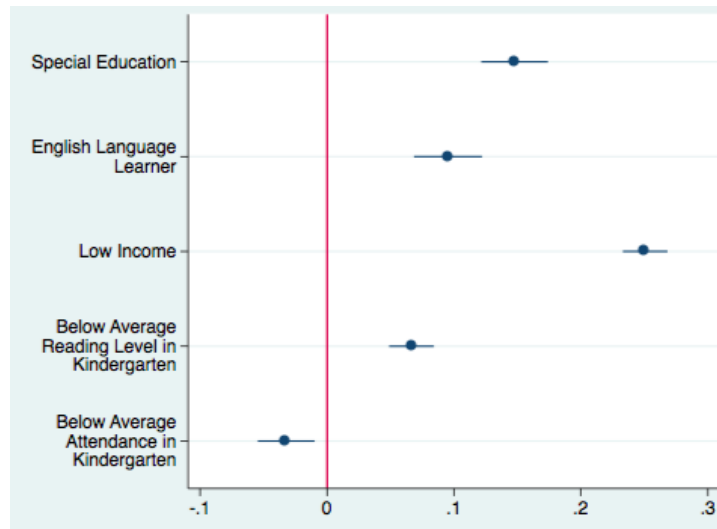
Variable type	Variables
Outcome variables	ELA state test score (SY15-16) Math state test score (SY15-16) Reading level (Fall 2016)
Input variables	Ever participated in summer school Participated for two years or more Participated for three years or more
Covariates for propensity score calculation	Kindergarten reading level Kindergarten Attendance Grade level SES-disadvantaged status (Low SES) English Language Learner (ELL) status School-year school ²³ BEARS enrollment ²⁴
Restricted	Special education status (IEP)

Each of the covariates chosen are statistically significantly associated with attending summer school.

Figure M. Regression Coefficients (on participation in summer school)

²³ Attended in fall 2016. I used this as a proxy for the school students attended the year before they first attended summer school, and including it therefore assumes that home school enrollment is fairly stable over the course of an elementary student’s life. It is included for Models 1-3 only (those that pertain to current elementary school students only).

²⁴ There are 34 students flagged as BEARS students who have never participated in summer school, and several more who had only participated one or two years.



Model specification

I use the following models to estimate the impact of summer school participation:

$$TestScore = \alpha + \beta_1(ParticipationDose) + \gamma(SES_{i,2016} + ReadingLevel_{i,K} + Attendance_{i,K} + ELL_{i,SY16-17} + School_{i,SY16-17} + GradeLevel_{i,SY16-17} + BEARS_{i,SY16-17}) + \varepsilon$$

Where $TestScore = \{\text{Reading Level, ELA state test score, or Math state test score in Spring 2016}\}$, $ParticipationDose = \{\text{Ever participated, participated two or more summers, or participated three or more summers}\}$, α is the average student score in 2016-17 for students who have never attended summer school, β is the additional points on the test score in 2016-17 attributed to attending summer school, and ε is the residual.

I decided not to match on IEP status and in fact exclude students with IEPs from my model, because the students with IEPs who do not attend summer school are systematically different from those that do. Including these students would greatly understate the estimate of the effect of summer school. However, excluding such a large group of students is another limitation of this analysis.

The outcome variable “Reading Level” is not measured for older students, so this outcome only applies to students currently in 6th grade or below. The state test outcome variables are not measured for students younger than 4th grade, so these models exclude these students.

Results

I performed tests of covariate balance to ensure sufficient overlap between the treatment students and the control students for each of these models. These balance tests ensure that the control students look sufficiently similar to the treatment students. The tests revealed that the covariates are not sufficiently balanced, showing this method has failed to overcome the selection bias threat to causal inference. For instance, if even after calculating and matching on propensity scores, there were far fewer students who are ELL in the control group than the treatment group, this would lead us to think that our estimate of the causal effect of summer school was still understated.

Effect of having ever participated on Reading scores

Treatment-effects estimation	Number of obs	=	2,604
Estimator : propensity-score matching	Matches: requested	=	1
Outcome model : matching	min	=	1
Treatment model: logit	max	=	4

	AI Robust					
Read_F2016_Eng~h	Coef.	Std. Err.	z	P> z	[95% Conf. Interval]	
ATE ever_participant (1 vs 0)	-.1532578	.9613945	-0.16	0.873	-2.037556	1.731041

Effect of having participated two or more years on Reading scores

Treatment-effects estimation	Number of obs	=	2,435
Estimator : propensity-score matching	Matches: requested	=	1
Outcome model : matching	min	=	1
Treatment model: logit	max	=	2

	AI Robust					
Read_F2016_English	Coef.	Std. Err.	z	P> z	[95% Conf. Interval]	
ATE participant_2yrs_plus (1 vs 0)	-4.896509	3.685589	-1.33	0.184	-12.12013	2.327112

Effect of having participated three or more years on Reading scores

Treatment-effects estimation	Number of obs	=	2,325
Estimator : propensity-score matching	Matches: requested	=	1
Outcome model : matching	min	=	1
Treatment model: logit	max	=	2

	AI Robust					
Read_F2016_English	Coef.	Std. Err.	z	P> z	[95% Conf. Interval]	
ATE participant_3yrs_plus (1 vs 0)	5.065806	2.211288	2.29	0.022	.7317612	9.399852

Effect of having ever participated on Math scores

Treatment-effects estimation		Number of obs		=	913	
Estimator	: propensity-score matching	Matches: requested		=	1	
Outcome model	: matching	min		=	1	
Treatment model:	logit	max		=	3	
Math_State_F2015	Coef.	AI Robust Std. Err.	z	P> z	[95% Conf. Interval]	
ATE ever_participate_pre2016 (1 vs 0)	-31.31836	11.15926	-2.81	0.005	-53.19011	-9.446621

Effect of having participated two or more years on Math scores

Treatment-effects estimation		Number of obs		=	864	
Estimator : propensity-score matching		Matches: requested		=	1	
Outcome model : matching		min		=	1	
Treatment model: logit		max		=	2	
Math_State_F2015	AI Robust					
	Coef.	Std. Err.	z	P> z	[95% Conf. Interval]	
ATE participant_2yrs_plus_pre16 (1 vs 0)	-12.92535	19.93334	-0.65	0.517	-51.99397	26.14328

Effect of having participated three or more years on Math scores

Treatment-effects estimation		Number of obs		=	824	
Estimator	: propensity-score matching	Matches: requested		=	1	
Outcome model	: matching	min		=	1	
Treatment model:	logit	max		=	2	
Math_State_F2015		AI Robust				
	Coef.	Std. Err.	z	P> z	[95% Conf. Interval]	
ATE						
participant_3yrs_plus_pre16						
(1 vs 0)	-65.15655	21.76503	-2.99	0.003	-107.8152	-22.49788

Effect of having ever participated on ELA scores

Treatment-effects estimation		Number of obs		=	905	
Estimator	: propensity-score matching	Matches: requested		=	1	
Outcome model	: matching	min		=	1	
Treatment model:	logit	max		=	3	
ELA_State_F2015	Coef.	AI Robust Std. Err.	z	P> z	[95% Conf. Interval]	
ATE ever_participate_pre2016 (1 vs 0)	-26.84015	17.52563	-1.53	0.126	-61.18976	7.509461

Effect of having participated two or more years on ELA scores						
Treatment-effects estimation			Number of obs	=	859	
Estimator : propensity-score matching			Matches: requested	=	1	
Outcome model : matching			min	=	1	
Treatment model: logit			max	=	2	
ELA_State_F2015	Coef.	AI Robust Std. Err.	z	P> z	[95% Conf. Interval]	
ATE participant_2yrs_plus_pre16 (1 vs 0)	6.722934	26.46813	0.25	0.799	-45.15365	58.59952

Effect of having participated three or more years on ELA scores						
Treatment-effects estimation			Number of obs	=	820	
Estimator : propensity-score matching			Matches: requested	=	1	
Outcome model : matching			min	=	1	
Treatment model: logit			max	=	2	
ELA_State_F2015	Coef.	AI Robust Std. Err.	z	P> z	[95% Conf. Interval]	
ATE participant_3yrs_plus_pre16 (1 vs 0)	-79.25427	30.27303	-2.62	0.009	-138.5883	-19.92023

Alternative quasi-experimental designs considered include regression discontinuity and difference-in-differences. However, I eliminated regression discontinuity given that there is not a sufficiently “sharp” cutoff for program eligibility. I eliminated a difference-in-differences approach due to the difficulty in establishing “parallel trends” prior to participation. This difficulty arises because the treatment group varies in how many “doses” of summer school it receives, so I would have to eliminate some observations from an already small group to create a multi-year comparison of a “treatment” and “control” group. Additionally, I suspect there will be such large variance in the data within both control and treatment groups, that imposing a linear or other regression on the two groups would lead to artificial and untrustworthy results. The limitations of the matched-pair design are fewer and more manageable, and are discussed in the “Limitations” section.

Appendix B: Profiles of High-Performing Programs

LA's BEST

Los Angeles, CA

Individual Interviewed: Eric Gurna, President & CEO

Organizational Overview

Type of organization: Nonprofit

Scale: operate in 193 schools in LA County

Age: created in 1988

Key Insights

Program infrastructure:

- After-school and summer programming
- Funded by the After School Education and Safety (ASES) Program and private funding; offered free of charge
- Partnerships with CBOs include Council on Economic Education, Girls Inc., Sanford Harmony, Soccer for Success, and more
- Evaluate quality regularly and engage in quality improvement year-round; focused on program quality, child development, and long-term indicators of success such as reduction in crime rates and high school drop-outs, rather than academic test indicators

Student Learning:

- Focus on student choice; students choose enrichment activities aligned with their interests, enhancing student engagement
- Rigorous planning for enrichment activities so staff have materials and training they need to implement well
- Regular staff training on positive youth development and project-based learning

Mountain View School District

El Monte, CA

Individual Interviewed: Angelica Sifuentes-Donoso, Director of Family Engagement and Extended Learning

Organizational Overview

Type of organization: School District

Scale: approximately 2000 K-8 students at twelve sites

Age:

Key Insights

Program Infrastructure

- Contracts with THINK Together as lead agency
- Funded by LCFF, 21st CLCC, and private funding including grants from Walmart and the Weingart Foundation
- Evaluates student learning by comparing pre- and post-test scores on the DORA

assessment

Student Learning:

- Introducing Sobrado Early Academic Language curriculum
- Staff each teach only one subject, and students rotate teachers; this structure has been helpful at attracting teachers
- Yearly themes help teachers connect content to the real world; this year's theme will be "Countries"
- Field trips every Friday
- Afternoons are dominated by club activities; clubs include Soccer, Cooking, Science, and Fashion; the clubs often have culminating events at the end of the summer

Hillcrest Elementary School

San Francisco, CA

Individual Interviewed: Brianna Santo, After-School Program Site Coordinator

Organizational Overview

Type of organization: School

Scale: approximately 165 K-5 students

Age:

Key Insights

Program Infrastructure

- Contracts with YMCA as lead agency
- Six week duration, 9am-5pm
- Funded by EXCEL and DCYF
- Work with CBO Excelsier Science to provide science workshops
- Focus on keeping structure tight and organized, and high expectation of teacher performance

Student Learning

- Focus on theme of community through field trips and skills-based learning in the city
- Piloted a Summer Learning Loss Prevention program last year for 1st graders only; includes four hours of literacy instruction by a credentialed teacher for seven weeks
 - zero change between pre- and post-tests; prevented loss, but didn't see gains
- Staff are technically employed by YMCA, but feel like Hillcrest staff; only work on-site at Hillcrest
- Eight of 25 after-school teachers are full-time employees who provide academic support during the day, meet with credentialed teachers to align after-school work with student needs throughout the year; summer staff have strong pre-existing relationships with students
- Teachers are often students studying education or social work
- Teachers required to complete lesson plans during after-school and summer
- Competitive summer staffing; teachers are hired for summer based on after-school performance

Appendix C: Summer 2012 Outlay details

The following is a rough estimate of summer school outlays based on a planning document from the 2012 summer school session.

Category	Outlay
Hourly employees	\$202,093
Full-time employees (nine certified teachers)	\$17,377.50 (wage of \$24/hr)
Field Trips	\$14,000 (estimated)
Food	\$14,448

“Earnings” totaled to \$486,968, and was calculated from the number of students and days, and defined the “rate” as \$37.23 per student. Earnings totaled to \$486,968 and outlays were \$219,470, creating leftover money of \$267,498.

Appendix D: Prioritizing quality improvement steps

In this table, I prioritize domains with low performance, high salience, high importance, and low time and effort required. Therefore, the scores on performance, and time and effort have been inverted so that a high score is consistently reflective of high priority.

	Current performance	Salience	Importance	Time & effort	Final Score	Final Rank
Planning: start early	3	3	3	1	10	2
Partner with CBOs	2	1	1	3	7	4
Get creative with funding	2	1	1	2	6	5
Evaluation and commitment to improvement	1	1	2	2	6	5
Small class sizes and individualized instruction	2	3	3	2	10	2
High-quality teachers and teacher training	2	3	2	2	9	3
Clear program focus and alignment	3	1	2	3	9	3
Incentivize and monitor attendance	3	3	3	3	12	1

Appendix E: The Summer Matters Model

Summer Matters is a campaign launched by the Oakland-based Partnership for Children and Families in 2009, funded by the Wallace Foundation, and endorsed by the California State Superintendent of Public Instruction.²⁵ It has the stated purpose of improving summer learning programs across the state. They work with school districts and program providers to leverage funding opportunities and make their summer programs more engaging and enrichment-focused.

Blending enrichment and academics can take many different forms, but a model Summer Matters promotes is facilitating coordination between certified teachers and after-school teachers to make the entire day have elements of learning and fun. Summer Matters' main focus is to bring more fun into academic instruction and more learning into enrichment time. For example, if morning instruction is focused on learning from a particular fiction book, and afternoon enrichment activity might include a hands-on project related to the themes from that book that allows students to express their creativity.

Summer Matters promotes its model as making learning more fun and engaging. It also allows certified and after-school teachers to learn from each other. While planning and implementing units together, after-school teachers learn classroom management and intentionality in instruction, and certified teachers learn how to be more flexible and fun. Furthermore, it gives certified teachers a chance to shape their instruction to the Common Core. They can try out creative group- and hands-on lessons that they can then implement during the school year more effectively.

This “blended learning” model can be implemented in summer school in a variety of ways.²⁶ One approach is to hire credentialed teachers to develop the curriculum and work with after-school teachers to implement the curriculum during the entire day. Credentialed teachers then serve as coaches to help after-school teachers with management and “intentionality” in their instruction. This model cuts instructional costs significantly, but results in less in-person instructional time with a certified teacher. The Mountain View School District's elementary summer program employs this strategy.

Alternatively, a summer school program can implement this model by creating time for joint planning, allowing academic and enrichment teachers to integrate their lesson plans.

While the Summer Matters campaign focuses less on assessment and more on theory-driven improvement practices, they recommend using very short pre- and post-test assessments to judge program effectiveness, such as DORA and the San Diego QUICK tests. They argue that summer school should be a time for flexibility and fun, and that judging effectiveness based on school-year benchmark or state assessments, which are aligned to school-year curriculum, will understate the impacts of summer school on student learning.

²⁵ <http://www.cde.ca.gov/eo/in/summerlearning.asp>

²⁶ One study found that when implemented without much planning, attempts at integrating enrichment in academics and vice-versa achieved neither very well (Augustine, 2013).

Summer Matters provides a network for California districts with summer learning programs. They provide some pro bono technical assistance, some more rigorous assistance for a fee, and coordinate site visits between nearby programs to facilitate learning best practices through observation.

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