CLARITY, CAPACITY, COMMUNITY, AND CONTINUOUS IMPROVEMENT

An evaluation of summer programming

Kevin Kimberly, Sarah McIlroy, and Nathan Parker
Vanderbilt University

Contents

LIST OF TABLES AND FIGURES

Tables

Figures

PREFACE

This study was completed in partial fulfillment of the requirements for the Doctor of Education (Ed.D.) degree from the Peabody College of Education and Human Development at Vanderbilt University in Nashville, Tennessee.

About the Authors

Kevin Kimberly

Kevin is a former teacher and principal turned educational consultant focused on rigorous instruction, quality engagement, and effective teacher coaching. His current projects address learning loss, system coaching models, and ACT/SAT prep.

Sarah McIlroy

Sarah is a teacher turned counselor, and a human development, learning, and engagement specialist. She is focused on individual and organizational performance and strategic change management.

Nathan Parker

Nathan is a former charter school teacher and leader. Now working with the state department of education, he is focused on education administration and statewide school choice policy.

Acknowledgements

This capstone was made possible through the interest, cooperation, and support of our partner district and liaison. We are deeply grateful to the teachers, school administrators, and district personnel who gave of their time and energy to engage with us in this research.

We would also like to thank Dr. Laura Booker for supporting our launch into a program evaluation, Dr. Claire Smrekar for remaining our constant sounding board, and Dr. Marisa Cannata for keeping us going through the final stretch.

1: Framing the Inquiry

EXECUTIVE SUMMARY

IN THIS SUMMARY

As early as 1906, educational researchers noticed and made suggestions to intervene in the "summer slide," the phenomenon that describes students' apparent loss of learning that occurs during the summer months away from school. Estimates vary as to the severity of potential academic declines, but research indicates that about a month's worth of school-year learning can be lost while students are on summer vacation. A lack of equitable resources may exacerbate already existing opportunity and achievement gaps, and at-risk students may become of even further risk after a summer away from academic and personal engagement.

Perhaps the most ubiquitous strategy to combat this summer setback is summer school, where, typically, low-performing students can benefit from fewer days without growth-inducing cognitive tasks as well as more individualized attention, targeted remediation, and even nutritional provision. Though some form of summer school is common in school districts across the country, variation exists in what programs entail, how they are implemented, and how well they achieve their aims.

In this study, we review such programmatic variation within a single school district and seek to aid the district's educational leaders in assessing current operations and planning for improvement-oriented next steps. Two main questions guide our process:

- **What is the nature and impact of middle school programming within the district?**
- **Is there a relationship between summer programming and student performance?**

Three key resources are used to answer these questions. First, district record-keeping documents and administrative deliverables provide loose framing for understanding the why and how behind summer programming. Second, robust qualitative data collected from 30 semi-structured interviews with teachers, school leaders, and district leaders offer holistic insight into the purposes, practices, and products of summer programming. Finally, quantitative data regarding summer school attendance, demographic factors, and benchmark assessment performance allow for a number of statistical analyses aimed at assessing the realities of summer programming in Clay[1] County Public Schools.

Key Findings

Our data reveal several key elements within our conceptual areas of study:

Purposes

- ***Slow the Slide***
  No clear vision is articulated, but summer programming is loosely understood to mitigate learning loss. Low-performing students are targeted for remediation.

- ***Decentralized and Diverging***
  Goals are decentralized and differ across middle schools. Outcome objectives diverge into two camps: a desire to close academic gaps or a prioritization of student care and connection.

- ***System-Level Supports and Shortcomings***
  Essential programmatic inputs, including funding and leadership, are provided at the district level. System-level supports align with some – but not all – best practices identified in research.

Practices

- ***Program Permutations***
  District leaders respect contextual needs by providing broad parameters and planning guidance for school leaders. School program plans vary in design and practice but ultimately experience the same perceptions of ineffectiveness.

- ***Autonomy or Aimlessness?***
  Teachers express ambivalence toward curriculum development, appreciating autonomy but also lamenting a lack of direction and clarity. A desire for context-driven approaches by some conflicts with a wish for guidance from others.

1: Clay County is a pseudonym for the partner district.
Pseudonyms are used for the district and its schools throughout this report.

- ***Parent and Public Partnerships***
  Engagement with families and external partners is largely absent but is wished for by teachers and school leaders.

- ***Multiple Mediators***
  Certain factors are under constant consideration by summer programming staff. Questions abound about class sizes, food and transportation provision, instruction style, and student engagement.

Products

- ***Better than Before, But…***
  Summer programming has improved, but undefined goals render measuring success a continued challenge. Teachers are not sure that summer programming makes an academic impact.

- ***SEL Success***
  Confidence is mixed in academic impact but uniformly strong in relation to social-emotional skill development and interpersonal connection. Social-emotional learning and student engagement are perceived to overshadow academic growth.

- ***Jump Start's Judiciousness***
  With non-academic and more well-defined goals, the Jump Start program's impact is more apparent and easier to champion. Jump Start seems to be functioning more effectively than summer programming at large.

Numbers Knowledge

- ***Quantitative Qualms***
  Regressions and *t*-tests indicated minimal, if any, relationship between attending summer programming and changes in test scores. Where there is significance, it seems to show contrary impacts.

- ***Special Population: Students of Color***
  Students of color score lower on benchmark assessments and are overrepresented in summer programming. Quantitative data do not clearly differentiate any specific impacts of summer programming for this population.

Recommendations

Based on these findings, we offer recommendations for four primary areas of growth.

1. Clarity: Provide a Clear and Consistent Program Purpose

- Set the Vision
- Set SMART Goals
- Plan Early
- Dedicate Year-Round Leadership

2. Capacity: Adopt Best Practices and Expand Resources

- Keep Class Sizes Small
- Individualize Instruction
- Support High-Quality Instruction
- Invest in Engaging Programming
- Increase Instructional Hours
- Provide Transportation

3. Community: Engage Parents and Community Partners

- Create Mechanisms for Educators to Collaborate
- Communicate the What and the Why to Parents Early and Often
- Keep Parents Engaged throughout the Summer
- Collaborate with External Partners to Enrich the Academic Program

4. Continuous Improvement: Formalize Data Collection and Program Evaluation

- Ensure Systematic and Consistent Data Collection
- Formalize an Ongoing Evaluation Process

Partner Organization

Clay County Public Schools (CCPS), a large public school district in the Southeastern United States, requested our assistance in evaluating the experience and effectiveness of its summer school programming. While the district itself has an evaluation arm, the team is small and the time restricted. Familiar with the "summer slide" and acknowledging that its annual summer programming is administered in an attempt to stem it, CCPS hoped for information as to whether its stated commitment to "crafting effective, high-quality summer programming" had been realized.

Area of Inquiry

CCPS invests time and energy in purposeful analysis and proactive organizational development work, and this project partnership was intended to push forward the district's understanding of and capacity to act on areas of improvement for summer programming. While centrally funded and mandated at the state and district levels, summer programming is essentially a product of each individual school, where administrators design and teachers implement programs each year. With this more distal relationship to summer programming, district leaders required a closer look at the frameworks and processes of the locally controlled programs to determine potential program effectiveness.

Gauging the effectiveness of interventions is a district priority and, of course, a broader issue of educational performance and educational equity. Summer school as an educational intervention has been studied at length, but the district's own capacity and effectiveness in administering such programs had not yet been systematically evaluated. As such, we undertook a multi-pronged evaluative process focused on summer school programming.

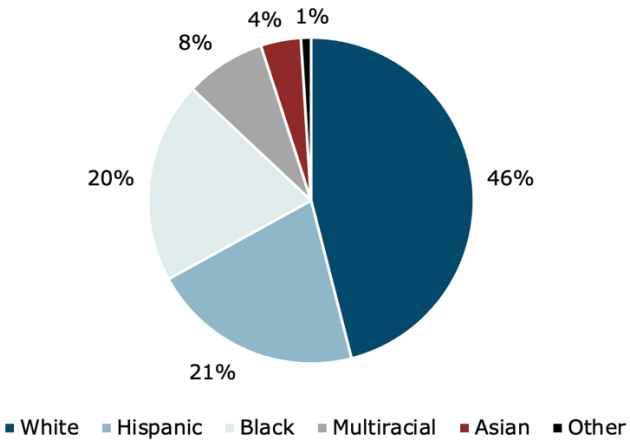
Overview

As indicated above, summer programming is a district-provided but school-implemented entity. This local control does undoubtedly provide some benefits for tailoring programming to school context and student needs, but it also creates an unknown amount of variation across schools and erects barriers to district-wide scaling of best practices. Administrators at the school level design and implement these summer programs using an array of various methods, including determination of student referral and attendance. As the district allows for school-level variability and currently lacks specific descriptive or outcome data across these programs, our mission was both to describe the nature of programming in order to understand implementation within and across contexts and to evaluate the impact of the programming on students' subsequent preparedness and success.

Client

Clay County has grown rapidly to a population of almost 150,000 with the school district enrollment slightly over 30,000. In the last decade, the school population has shifted to include a majority of students of color with currently 46% of the population identifying as White, 21% as Hispanic, 20% as Black, 8% as multiracial, and 4% as Asian (1% as other races including American Indian/Native American and Native Hawaiian/Pacific Islander). All schools in the district are fully accredited; there are two early childhood centers, 17 elementary schools, eight middle schools, five high schools, and one school for alternative education in the district.

Figure 1.1: District Demographics



Thirty percent of the district's students qualify for free or reduced-price meals, approximately 13% qualify for special education, and six percent are English language learners. Despite a low percentage of English language learners, CCPS has a large international population: CCPS students represent over 100 countries. The district's graduation rate of 94% surpasses the state average of 92%. While the district's median household income of $100,000 exceeds the national average, the district considers itself fiscally conservative and frequently interested in ensuring return on investment for programming.

Program

Summer programs, a district effort spanning across more than 15 of the last summers, are implemented for remediation, credit recovery, and enrichment purposes. At the high school level, summer school is administered online and most often for credit recovery and enrichment. At the elementary and middle school levels, programming occurs in person with instruction by district teachers hired for the summer. Middle school summer programming focuses primarily on remediation but also includes the Jump Start program, an exposure-oriented experience intended to facilitate rising 6th grade students' successful transition to middle school. Due to the district's preferred focus and existing knowledge, our project focuses exclusively on the eight middle schools in the district and explores the purposes, practices, and products of middle school programming.

Stakeholders and Decision-Making

While students and families represent the end users of the summer program experience, our understanding of stakeholders for this particular project emphasizes district leaders, school leaders, and teachers (see Appendix A for stakeholder analysis table). The interest to evaluate summer programs originated from the district office, and its leaders remain our primary stakeholders throughout. The knowledge developed as a result of this project will ideally equip the district to make decisions regarding future summer program processes, potential changes to planning and execution, and any additional research into program impacts.

This new knowledge will also prepare the district leaders to engage with the perspectives and voices of school leaders and teachers, whose significant historical autonomy over site-level implementation of summer programs could feel threatened by a district-sponsored evaluation. Students, families, school leaders, teachers, and other staff were considered stakeholders for the purposes of developing a holistic understanding of

summer programming – and will be important for inclusion in future iterations of summer programming evaluation – but the district leaders are those stakeholders who will be most directly informed by this work.

AREA OF INQUIRY IN THE ORGANIZATION

Our client's main area of inquiry is determining the effectiveness and impact of their summer programs. After exploring the robust summer program offerings across the district and each program's unique purpose, we identified CCPS's middle school remediation program as a particular area of opportunity.

The summer remediation program is part of a state mandate, which has been in place for decades. Earlier iterations of the program included a more traditional summer school program, including math and ELA course requirements that determined whether academically at-risk students would advance to the next grade level or be retained. Two key events have shaped the current summer school program model. First, the district ended the punitive component of summer school, essentially making the program low-stakes and optional. Second, the Great Recession in 2008 impacted the funding model for the program, leading to a greatly pared-down summer program. The program, which once ran for six weeks, now only operates for 10 to 12 short instructional days.

As a result of these historic shifts, the district found it increasingly difficult to offer a program able to deliver measurable academic gains within its programmatic confines. In response, the district began a philosophical shift three years ago from a traditional summer program focused strictly on math and ELA remediation to a program more focused on student engagement for at-risk students. While some schools have attempted to embrace this philosophical shift through thematic units or a project-based learning model, others have maintained the traditional focus on academic skills

remediation, resulting in a variety of implementation practices across the middle schools. This is evidenced by the general sentiment of the district and school leaders who question whether the program holds any value at all anymore and by a lack of consistent academic and other data to determine program effectiveness.

The problem with CCPS's summer school program implementation is important, first and foremost, because the intent of the program is to serve at-risk students who require additional remediation outside the regular school year to achieve academic success in the following school year. The program is expensive, and while there are state funds allocated specifically for the summer program, low enrollment numbers and a lack of program data indicate a potentially poor return on investment of education funds, which could possibly be used more effectively or in other ways to support at-risk learners. Failure to address the problems with the summer program present the opportunity cost of developing a truly impactful remediation program that can fill students' academic and social emotional gaps. Summer remediation also provides an opportunity to better engage students and families in a meaningful way to drive future success during the regular school year.

There are several factors which may contribute to the problem with summer programs. First, while district and school leaders have expressed uncertainty regarding the program's effectiveness and wondered whether district resources could be better used elsewhere, the program as implemented is characterized by significant limitations. For example, the program is only 10 to 12 days long, which provides little time to remediate significant learning gaps. Transportation is not currently provided for most students, creating additional access and equity concerns and contributing to a lower enrollment overall.

Second, there is currently no formal evaluation process in place to measure desired outcomes that the program produces. There is a lack of consistent means of data collection or analysis employed at the district level to efficiently or effectively measure program impact across the eight schools.

Third, while there is a general idea of the purpose of summer programs, the lack of a clear and consistent philosophy creates variations across school sites. There is no stated vision, mission, or explicit goals for the summer program at the district level. While the district embraces the shift from a traditional summer school model to one focused on student engagement, principals have the autonomy to determine the philosophical focus at their own campuses.

Finally, principal and teacher autonomy has created, in the words of one teacher, a pedagogical "carte blanche" for summer instruction, signaling that there is no consistent program from year to year, across schools, or even among classrooms in a single school site. In addition, due to the perceived limitations and ineffectiveness of the program, school leader and teacher mindsets and attitudes may negatively impact the rigor or pedagogy implemented in the program if they do not believe academic gains are possible during the given time frame.

Thus, while the district has funds and structures specifically set aside for a summer program, the lack of clarity, capacity, community, and continuous improvement protocols for summer school processes, practices, and products have created a program stuck between past implementation and present opportunities.

2: Knowledge and Design

LITERATURE REVIEW

Problem Context

The traditional American school day provides significant structure for students and families. Most recently, in the throes of the global COVID-19 pandemic, the constancy of that structure has been shown to be an integral yet previously overlooked element of family functioning (Kuhfeld & Tarasawa, 2020; Prime, Wade, & Browne, 2020). During a typical school year, students are supervised, engaged, and educated, thereby occupied and accounted for while most of their guardians manage workforce responsibilities. When school is out for the summer, however, student schedules and family life become unpredictable, amorphous, and not entirely likely to be geared toward academic growth (Phillips & Chin, 2004; Pitcock, 2018). Prior to child labor laws, children generally held jobs during the summer, but as these laws took hold in the early 1900s, idle hands and minds became a cause for concern (Cooper, 2001). A now century's worth of research has illuminated that those essentially nebulous months can not only stall academic progress but thwart it, at least in terms of student performance on standardized assessments (Alexander, Entwistle, & Olson, 2007; Allington et al., 2010; Cooper, 2003; Entwistle & Alexander, 1992; Phillips & Chin, 2004; White, 1906; Wiseman & Baker, 2004).

Evidence of the Summer Slide

The learning 'loss' that occurs during the summer, often deemed the "summer slide," is well-documented. Typically measuring achievement through test scores, research has evidenced a multitude of effects (Alexander, Entwisle, & Olson, 2001; Benson & Borman, 2010; Cooper et al., 1996; Cooper, 2003; Entwisle & Alexander, 1992; Li, Alfeld, Kennedy, & Putallaz, 2009; Phillips & Chin, 2004). In their preeminent meta-analysis of more than 35 studies on the topic, Cooper et al. (1996) found an average loss of one month of learning from spring to fall, particularly in mathematics. Alexander, Pitcock, and Boulay (2016) call the summer slide a proven fact that completely undermines the work put in during the school year, given its regressive impact. What was once thought to be a break in learning has manifested as a decline.

> The achievement gaps we seek so fervently to narrow in public education are driven not by the differences in the way young people learn when they are *in* school, but by a persistent opportunity gap that dictates how they learn **when they are *out* of school.**
>
> -Alexander, Pitcock, and Boulay, 2016

The severity of that decline is not realized in the same manner by all students, however (Alexander, Entwisle, & Olson, 2001; Alexander, Entwisle, & Olson, 2007; Benson & Borman, 2010; Cooper et al., 1996). Perhaps surprisingly, research indicates that most students, on average, make academic gains at about the same rate during the school year; achievement gaps become more pronounced when students are out of school for the summer rather than in school during the year (Alexander, Pitcock, & Boulay, 2016; Entwisle, Alexander, & Olson, 1997; Kim, 2004). Students with access to summer enrichment experiences and resources to stay engaged in academic activity – typically White and upper socioeconomic status (SES) students/families who hold social capital – show significantly less learning loss than their counterparts (Alexander, Pitcock, & Boulay, 2016; Slates, Alexander, Entwisle, & Olson, 2012; Steinberg, 1996). Heyns (1978) demonstrated the explicit impact that each year's schooling hiatus has on students of color and of low SES even when learning gains throughout the year were consistent across all students. Donahue and Miller (2008) also noted this summer gap in learning to be a primary cause of the widening achievement gaps between students of high and low SES. While Cooper et al. (1996) saw similar average loss in math across all groups of students, they found significant differences in lost reading achievement during the summer between middle class and disadvantaged students, the latter showing more decline. The achievement gap battles that educators and schools spend so much time fighting during the school year may well be won or lost in the summer months.

Targeting Loss

Educators have recognized summer as an impetus for widening learning gaps and as an opportunity to avert and/or rectify such gaps, but summer-leveraging strategies take many forms (Austin, Rogers, & Wallbesser, 1972; Boss & Railsback, 2002; Donohue & Miller, 2008). Cooper (2003) describes three primary remedies for summer learning loss: an extended school year, summer school, and modified calendars. The extended

school year strategy has had some traction, particularly among public charter schools, but represents a potentially prohibitive cost when serving all students and could require at least 35 additional days in school to induce significant gains (Hazleton, Blakely, & Denton, 1992). Modified calendars could have a positive impact on student achievement, but research has been methodologically limited and inconclusive, and the concept faces some community resistance (McMillen, 2001). Summer schooling is perhaps the remedy of choice for most districts, and demand remains high for publicly funded summer learning options (Alexander, Pitcock, & Boulay, 2016).

Summer schooling is commonly assumed to be deficiency-rooted, where a student repeats a failed course or recovers unearned credit. In upcoming years, summer programming is likely to be leveraged to alleviate some of the widespread learning loss induced by school closures and remote instruction during the COVID-19 pandemic. Prior research indicates that learning loss from even short-term school closure can have persistent, long-term effects, and schools should be preparing for purposeful remediation programs (Andrabi et al. 2020; Kaffenberger, 2021; World Bank, 2020). However, in many instances, the base goal of summer programming was and is to provide students with something engaging to do so as to avoid potential loss of school-year progress. Thus, summer programming has come to serve an abundance of purposes: enrichment of school-year learning, exploratory learning, early course completion, maintenance of achievement growth, experiences beyond the standard curriculum, and targeted services for particular groups of students (Boss & Railsback, 2002; Cooper et al., 1996; Cooper et al., 2000; Denton, 2002; Heyns, 1978). This narrative shift around the purpose and value of summer schooling to not only remediate but also to mitigate loss may be particularly vital for districts and communities, particularly those working toward equitable outcomes. Such a shift may also facilitate capitalization on the programming's potential value.

Potential Value of Summer Programming

Donohue and Miller (2008) noted a "tremendous untapped potential of the summer months to improve academic achievement and to level the playing field for all of our children" (p. 19). However, the evidence of summer programming's impact on student achievement is not conclusive at this point, in part due to the variety in program structure and content; summer programming varies along multiple dimensions, including setting, operators, funding systems, focus, duration, and target population (McLaughlin & Pitcock, 2009).

Denton (2002) asserts that when done right, "summer school makes a difference in students' lives" (p. 3); however, there are a wide variety of meanings for "done right." Denton (2002) defines it as high-quality teachers, sufficient funding, and an emphasis on reading and math in an environment that promotes learning and is treated much like the school-year classroom in terms of standards, expectation, and rigor. Cooper et al. (1996) and Cooper et al. (2000) found that doing summer programming right did not depend on whether it had a remedial or enrichment focus but rather on elements of program structure – small class sizes, individualized instruction, substantial teaching of math and reading, and rigorous evaluation processes. Borman, Benson, and Overman (2005) added to the best practices consideration that without commitment and involvement of parents, the effects will continue to be small or null.

McCombs, Augustine, and Schwartz (2011) synthesized the best practices literature to converge on nine vital components of quality summer learning programs:

1. Smaller class sizes
2. Differentiated instruction
3. High-quality instruction
4. Aligned school year and summer curricula
5. Engaging and rigorous programming
6. Maximized participation and attendance
7. Sufficient duration
8. Involved parents
9. Evaluations of effectiveness

In addition, the National Summer Learning Association (NSLA) advocates for ensuring a mission and vision grounded in community needs, proactive planning processes, sustainable financing plans, culturally competent and empowered program staff, and strong external partnerships (NSLA, 2012).

There is no one-size-fits-all model of summer programming, and that is perhaps why one of the most important elements of successful programs is continuous, careful evaluation of processes and outcomes "to identify what does and does not work and to get ideas about new things to try" (Denton, 2002, p. 16). Continuous improvement processes are no doubt also important in reference to financial backing; summer school may be a cost-effective path to raising student achievement (Matsudaira, 2008), but for whom and under what conditions remain questions needing further contextualized research. The prospect is promising if schools can get it right.

> “Summer school makes a difference in students’ lives if it is done right.”
>
> -Denton, 2002

So Why Doesn’t Everyone Do It, And Do It Well?

Consensus on which of the best practices described above are nonnegotiable remains elusive and contextual, but it is clear that summer programming has the potential to be transformative. Despite that potential, challenges to launching, maintaining, and scaling programs are pervasive and may explain why summer programming has not reversed the summer slide (Alexander, Pitcock, & Boulay, 2016; Borman, 2000; Cooper, 2003; Grossman, Lind, Hayes, McMaken, & Gersick, 2009; McCombs, Augustine, & Schwartz, 2011). Effective implementation of district-based summer programming requires coordination and buy-in across multiple district departments and from stakeholders. McCombs, Augustine, and Schwartz (2011)’s comprehensive evaluation found that without appropriate buy-in, teachers deviated from curriculum, site leaders considered goals unattainable, and implementation fidelity suffered. Without family buy-in, low enrollment and limited satisfaction can feed a disheartening cycle of exasperation with summer programming overall.

Even more consistently pressing were issues of funding, as tight budgets, high costs, and bureaucratic strings cause headaches and make administrators question the payoff of summer learning (McCombs, Augustine, & Schwartz, 2011). Beyond these likely expected challenges, issues with facilities, staffing, and external partner relationships can limit the scale and success of these programs. Summer programming is certainly an area of constant interest and ample research, but crafting and implementing effective, high-quality programs is not entirely straightforward.

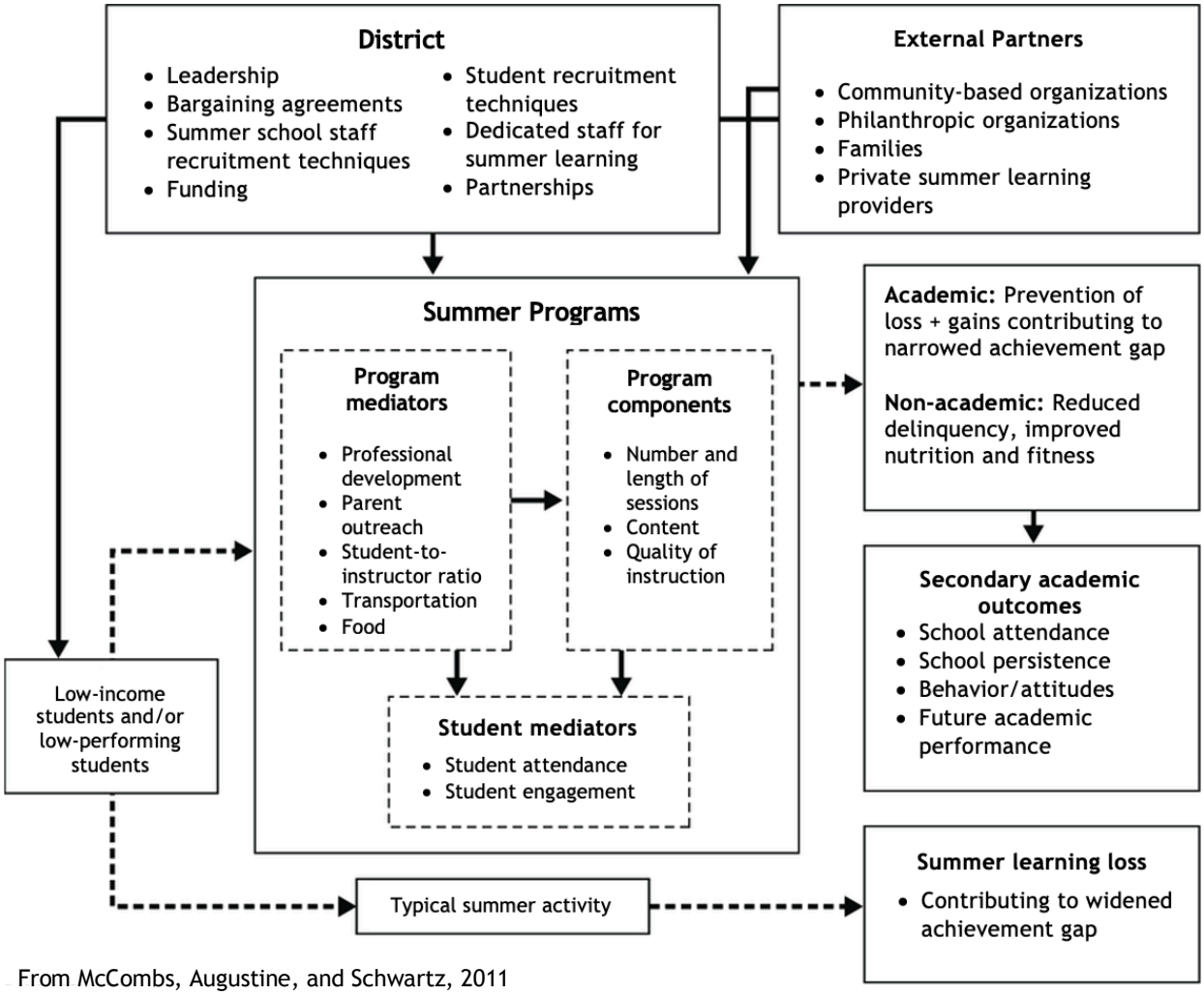
CONCEPTUAL FRAMEWORK

Purposes, Practices, and Products

An area of abundant interest and research, summer learning is considered frequently from several angles. As such, conceptual frameworks related to the philosophies, processes, and outcomes of these programs already exist. We adopted McCombs et al. (2011)’s conceptual framework to guide our evaluation in terms of both development and execution, informing our interview protocols (see Appendix C) and our thematic

analysis process (see Appendix D for data matrix example). McCombs et al. (2011)'s multifaceted study anchors its assessment of summer programs in cost viability and learning loss mitigation, both of which are implicit background factors in our research. While we are not conducting a cost-benefit analysis, we are considering the overall value of summer programming in regard to its mission of improving student outcomes.

Figure 2.1: Conceptual Framework



From McCombs, Augustine, and Schwartz, 2011

CCPS's summer learning approach aligns to the conceptual framework's logical model, in which summer learning loss is reduced for low-performing and at-risk learners by offering math and ELA remediation. Additionally, CCPS's program is a district-provided program focused on both academic and nonacademic results. This research-based conceptual framework provides a lens through which we can evaluate the

implementation of summer learning programs at CCPS, identify areas of strengths and challenges, and make recommendations in alignment with both CCPS's context and the extant literature.

The focus of our implementation study centers on several components of this conceptual framework. First, we aim to better understand the relationship between the district and schools regarding the implementation of summer programs. Our analysis considers the role of the CCPS district leaders and school leaders in structuring, planning, and communicating school-based summer learning programs in comparison with best practices. In addition, we examine what role, if any, external partners such as parents or community-based organizations play in program implementation.

Next, much of our analysis examines the summer programs themselves, specifically how program mediators, program components, and student mediators influence the intended and unintended outcomes. Finally, we examine the academic and nonacademic outcomes of the program and any additional factors or outcomes influenced by attending summer learning programs in CCPS. This component includes quantitative analyses of existing student academic data as well as qualitative data gathered from interviews with district and school-based personnel involved with summer learning. Thus, our conceptual framework ensures a holistic evaluation of the purposes, practices, and products of CCPS's summer learning remediation program.

Program Theory and Logic Model

The logic model for CCPS's summer program is described in Appendix B. The theory of action stipulates that students who attend the summer program will perform better academically in the long term. By identifying students who perform below grade level, have specific skill gaps, or are vulnerable to summer slide, the school is able to provide targeted math and reading remediation, tutoring, and other interventions without having to simultaneously introduce new material, as is necessary during the regular school year. Summer programs also help students maintain a semi-structured academic day throughout the summer, which may prevent students from having to relearn healthy school habits in the fall. Students who enter with knowledge or skill deficits can receive greater practice aimed at closing gaps. In addition, positive relationships with peers and teachers and continued growth and academic success can help build student self-efficacy heading into the next grade level. All of these benefits better prepare students for a strong start in the fall of the next school year, requiring less within-year remediation, fewer classroom pull-outs, and eventually greater academic success as measured by promotion and performance on district and state testing.

QUESTIONS

Key Evaluation Questions

Collectively, we seek to answer the question, "What is the nature and impact of middle school summer programming within the district?", to provide the district with informative details regarding how the mandate for summer programming is being operationalized by the schools and realized by the students. In determining what the program looks like at the schools, we seek to discover the perspectives of teachers and school leaders on the purposes, practices, and products of summer programming.

In determining the impact of the program, we seek to identify any relationships between summer program attendance and student performance by answering the question, "Do students who attend summer programming exhibit stronger academic achievement gains in comparison to students who do not attend?" In other words, are the programs preventing the "summer slide"? The district is also interested in determining whether there are different impacts for students of color and if attending for multiple summers enhances the program's impact on achievement.

What is the nature and impact of middle school summer programming within the district?

- **Purposes:** What are understood to be the purposes of summer programming?
- **Practices:** What practical and pedagogical elements define summer programming?
- **Products:** What are understood to be the outcomes – intentional and unintentional – of summer programming?

Is there a relationship between summer programming and student performance?

- Do students who attend summer programming exhibit stronger academic achievement gains in comparison to students who do not attend?
- Do students of color exhibit academic achievement gains after attending summer programming?
- Does attending for multiple summers enhance the program's impact on achievement?

PROJECT DESIGN AND DATA

Evaluation Design and Approach

Given the context of the middle school summer programs in Clay County and the desired findings, the evaluation consisted of two parts: implementation and impact. In order to determine what has been happening in the various schools' summer programs, we first conducted an implementation evaluation. The only established consistency is the district mandate requiring schools to have a summer program; how schools understand and execute that mandate is up to the administrators at each school. Thus, we expected variation in our findings but needed to explore in order to understand what the summer programs look like within and across the eight middle schools; the implementation evaluation provided in-depth information to this point. A subsequent impact evaluation utilizing student performance data provided additional context for program functioning and effectiveness.

Data Collection

We employed a mixed-methods approach, emphasizing qualitative processes within the implementation evaluation and quantitative analyses for the impact evaluation. Qualitative data were collected through the following methods:

1. An initial context-gathering meeting with all middle school principals
2. Document review and analysis
3. Interviews with district leaders, school leaders, and summer program teachers

While surveys of families and students were considered, access and time constraints necessitated that qualitative interviews become our primary focus. These interviews were information-rich and illuminating.

Quantitative data came from the district's standardized testing records, including comprehensive student scores from the Renaissance Star Reading (STAR) test and the NWEA MAP mathematics (MAP) test. Student score information from 2016 to 2019 allowed us to focus on the prior years of summer programming that were delivered in an in-person format. The longitudinal nature of the data provided opportunities to consider all of our impact questions.

A comprehensive evaluation matrix follows in Table 2.1.

Table 2.1: Evaluation Matrix

Evaluation Question	*Indicators*	*Evaluation Design / Data Collection Method*	*Data Collection Tool*	*Sample*	*Data Collectors*	*Data Anlalysis*
What is the nature and impact of middle school summer programming within the district?						
What are understood to be the purposes of summer programming?	Responses, documentation, program literature	Qualitative interviews, Document review	Semi-structured interview protocol	Teachers, School Leaders, District Leaders	Research team	Thematic analysis
What practical and operational elements define summer programming?	Responses, documentation, program literature	Qualitative interviews, Document review	Semi-structured interview protocol	Teachers, School Leaders, District Leaders	Research team	Thematic analysis
What are understood to be the outcomes - intentional and unintentional - of summer programming?	Responses, documentation, program literature	Qualitative interviews	Semi-structured interview protocol	Teachers, School Leaders, District Leaders	Research team	Thematic analysis
Is there a relationship between summer programming and student performance?						
Do students who attend summer programming exhibit stronger academic achievement gains in comparison to students who do not attend?	Spring-to-Fall growth scores	District-wide assessments	MAP/STAR exam scores	Summer programming attendees and non-attendees (2016 - 2019)	Scrubbed district-collected data	Simple quantitative analysis
Do students of color exhibit academic achievement gains after attending summer programming?	Spring-to-Fall growth scores	District-wide assessments	MAP/STAR exam scores	Summer programming attendees and non-attendees of color (2016 - 2019)	Scrubbed district-collected data	Simple quantitative analysis
Does attending for multiple summers enhance the program's impact on achievement?	Spring-to-Fall growth scores	District-wide assessments	MAP/STAR exam scores	Summer programming single year and multi-year attendees and non-attendees (2016 - 2019)	Scrubbed district-collected data	Simple quantitative analysis

Sample

Our district-based program evaluation sampled district employees at schools and the central office. After delineating a focus on middle schools due to the district's conceptions of program characteristics, we focused on interviewing middle school principals in addition to summer program administrators and teachers at each school site. We relied on principals to identify recent summer program administrators and teachers for interviews, as these school-level leaders have the most awareness of individuals who would be representative and knowledgeable. The population of possible subjects was small, as only a small number of district employees participate in summer programming each year, but we were able to plan interviews with at least two - and more often three or four - stakeholders at each school. Interview subject information is shown in the table below.

Table 2.2: Interview Subject Information

School Name	School Leaders	Teachers	District Leaders	*Totals*
Denim	1	2		3
Gray	1	1		2
Hazel	2	2		4
Maroon	1	3		4
Purple	2	2		4
Sapphire	1	2		3
Turquoise	1	2		3
White	1	2		3
District Office			4	4
Totals	***10***	***16***	***4***	***30***

The student data set was divided into samples of summer program attendees and non-attendees. While a large data set was provided, data inconsistencies, district attrition, and other factors constrained the usable data to a potentially non-representative sample. Percentages of summer program attendees whose data is included in our analysis are shown in the table below.

Table 2.3: Quantitative Data Representativeness

	STAR	MAP
15-16	88%	
16-17	86%	
17-18	41%	35%
18-19	34%	73%

District data records were incomplete, due in part to student and family transience and to reporting inconsistencies. Some individual students had multiple (up to seven) scores for a single season's exam (STAR and MAP), indicating possible teacher discretion for multiple testing administrations. A number of unique student IDs were not in fact unique, with different identified grade levels, assigned gender, or schools associated with a single ID number. Data cleaning involved removing observations with these unexplainable inconsistencies. While matching was considered in order to conduct analyses on larger samples, demographic information and other student-level variables were limited by data scrubbing, rendering matching inappropriate as an analysis strategy.

Data collection and analysis: implementation evaluation

After the initial information-gathering group experience with the eight middle school principals, we augmented and adjusted interview protocols to allow for collection of robust qualitative data. Interviews with school leaders and teachers at each school provided necessary qualitative understanding of what is occurring across programs. In addition, we disaggregated and analyzed recent trends in summer school attendance and non-attendance in order to understand the demographics of summer programming. Chi-square analyses allowed for determination of relevant relationships.

Data collection and analysis: impact evaluation

Of most salient interest to the client district was the potential for correlations between summer school attendance and student assessment performance. A difference-in-differences analysis allowed for comparisons between groups with summer programming as the "treatment." A modified difference-in-differences utilizing calculated growth scores provided additional comparative context. We were able to conduct multiple quantitative analyses - most often Welch's *t*-test due to unequal variances - in order to compare the performance of those who attended (attendees) with those who did not (non-attendees). We also examined sub-population performance through correlative and comparative analyses. In order to determine whether students who experience summer programming more than once have greater success than those who only attend once, we again used our modified difference-in-differences data to assess the potential difference in impact of summer school for one-year attendees and multi-year attendees.

Strengths and Limitations of Design and Methods

- **Strength: Mixed Methods Design.** A strength of the research design is the use of mixed methods. The use of qualitative and quantitative methods ensured complementarity of results by allowing us to employ interviews to go further in depth and counteract the potential limitations of available quantitative measures used to analyze the impact of summer programs on student achievement. The qualitative data collection methods described included an abridged focus group, interviews, and document analysis, which allowed us to triangulate and corroborate the results. Further, our data collection included multiple stakeholders, including school leaders, teachers, and district leaders rather than relying solely on student growth measures. Finally, the use of a control and treatment group (summer school attendance) and a difference-in-differences design provided strong internal validity outside of a randomly assigned experiment.

- **Strength: Dual Evaluation Strategy.** The research design's dual structure including both an implementation and impact study is another strength. Given the open-ended nature of summer programming between schools, pairing an implementation study with an impact study helped illuminate elements of summer programs that may need further study. This research design allowed us to both offer what the stakeholder initially asked for – an impact study on the effectiveness of its summer program – while also ensuring a targeted analysis that acknowledges the variations between and current limitations of schools' programs.

- **Limitation: Impact of COVID-19 on Study.** One of the biggest limitations of the project, which is unique to the timing of our capstone assignment, is the ongoing national health crisis and its impact on our data collection and K-12 education in general. First, school closures due to COVID-19 led to an online version of the 2020 summer program. A digital-only learning environment for the fall and lack of travel safety impeded our ability to access the schools and conduct in-person observations and interviews. In addition, to best isolate the impact of the summer programming on student achievement, rather than the impact of COVID-19, we used student data measures from previous school years. There was some recall bias during our qualitative data collection since school leaders, teachers, and district leaders were asked about their experiences with the program from more than a year prior.

- **Limitation: Appropriateness of Quantitative Measures.** The best quantitative measures available to gauge the impact of summer programs on student achievement were district-wide monitoring assessments used to measure math and literacy growth. While these assessments are typically nationally normed, they are not aligned to the instruction provided during summer programs. However, without specific assessments created to measure student progress subsequent to summer program instruction, these assessments are the closest proxy measurements of student growth and achievement.

3: Findings

WHAT IS THE NATURE AND IMPACT OF MIDDLE SCHOOL SUMMER PROGRAMMING WITHIN THE DISTRICT?

Question 1A: Purposes

What are understood to be the purposes of summer programming?

While the purpose of summer programming at CCPS has changed slightly over time, what has remained constant is the focus on supporting low-performing students in the core content areas of mathematics and English language arts (ELA). Our qualitative analyses illustrate how state and district policies, funding, and leadership have shaped the summer programming framework within CCPS, but an emphasis on school autonomy has produced a myriad of mindsets regarding how to best serve low-performing students in the current summer program context. Though district leaders, school leaders, and teachers were able to articulate a general understanding of summer programming purposes, CCPS staff were unable to provide clear or consistent vision or goals for what summer programming is currently or what it should look like moving forward. To determine the purposes of summer programming at CCPS, we explore its programmatic inputs by synthesizing the perceived purpose and goals of the program at the district and school levels and by evaluating system supports as compared to best practices.

- ***Slow the Slide***

  In the past, CCPS's middle school summer program was required for low-performing students as a means to promote to the next grade level. After the district moved away from systematic grade level retention, summer school became less punitive and focused more on the remediation and engagement of at-risk learners. Remediating students, specifically in math and ELA, remains the predominant purpose of middle school programming. This sentiment was expressed across school and personnel contexts:

  > *"To provide some remediation and support and connection for kids who may have fallen...It's a small little bridge to keep them from sliding even further over the course of the summer." (district leader)*

"The purpose is to prepare students for the next grade level...So, addressing essential standards they may have missed in the previous school year. Trying to build and fill foundational gaps." (school leader)

"The academic focus and goals were the major purpose; we wanted to fill student gaps and jump start students in the next year." (teacher)

This purpose was supported by the resources, structures, and procedures put in place by the district and school leaders. The district provides per pupil allocations to principals who then hire teachers who teach reading and math intervention blocks. School leaders, along with teachers, determine who is eligible for summer programming based on grades, internal math and reading scores, and performance on math and reading standards on state testing. Math and ELA academic performance are the primary factors in inviting students to summer programs and the main focus of the curriculum across school sites.

- ***Decentralized and Diverging***

Despite an understanding of the general academic purpose of summer programs, the program goals varied across middle schools. Summer programs are a state mandate for schools accompanied by state funding. The mindset that summer programs are a district mandate was expressed by various school leaders:

"We have literally been told, as principals, that the state provides us money for summer school, and so we must use it for summer school."

"Summer school is a [district] level product that we have to administer at a local level."

Summer programs were often described as a requirement rather than an opportunity. This is in part due to perceived program design inadequacies that will be discussed later. However, it also appears to stem from the roles the district and schools play in the planning of summer programs.

The district provides funding and helps organize the initial planning for summer school, but school leaders determine how the program will be implemented at their own campuses. When CCPS personnel were asked what the goals of summer programming were, some expressed that program goals had not been set or communicated at the district or school levels:

"Honestly, I'm not sure that goals have been set." (district leader)

"Goals were never clearly communicated from either school administration or district level really, and I don't believe anything formal or official is ever put out to this day." (district leader)

"Having a predefined goal was never something we discussed. There was no vision or mission associated; we never sat down as a group and discussed or figured this out ... I think this would have helped." (teacher)

Personnel that did articulate goals described the broader focus of the program without discussing measurable programmatic outcomes. In addition, the focus of the goals diverged into two distinct objectives: academic remediation and student care. Staff who ascribed more academically motivated goals to summer programs discussed closing gaps and preparing students for the next school year:

"Our goal for all of our students at the middle school level is that they are ready for the rigor of regular coursework." (school leader)

"The goals are to stay connected to our kids and to extend or supplement their learning from the previous year knowing that they need support going into the next year." (teacher)

"Summarily, we wanted to keep brains academically engaged and at least maintain their level for the neediest of the needy while maybe addressing underlying skills that prevented academic growth..." (teacher)

Other CCPS staff expressed goals centered around student care. These staff members may have also mentioned academic priorities, but highlighted student care and social emotional learning as the implicit, but attainable outcomes:

"[Summer programming] provides them an opportunity to see that school is not such a bad place; [it] provides them an opportunity to have fun while learning and to learn in a different way." (school leader)

"We spend a lot of time caring for them and loving them and making sure they feed good and confident." (school leader)

"Just to connect with students - that's what I believed to be the primary goal. There were secondary goals, but that [goal] was so monumental that this is all it came to be." (teacher)

The divergence in program goals may be attributable to several factors discussed during our interviews with school and district personnel:

1. While the program is still state-mandated, the district's elimination of retention policies and the reduction in the length of summer school changed perceptions about what can feasibly be accomplished within the program. Without retention, the program essentially became optional, removing what one teacher called, "the ticket to get into the next school year." Reducing the length of the summer program - shortening from a six-week to a two-week program - provided significantly less time for teachers to provide remediation to students and made evidence of academic growth on student assessments more difficult to produce.

2. Three years ago, district leadership communicated to school leaders the opportunity to shift from a traditional summer school model focused on academic gains produced on a skills assessment to a summer camp model focused on student engagement with academic material. As one district leader described:

   "I think over that last three years the goals shifted, [the prior district leader] provided us an opportunity to go beyond the pre-test, post-test kind of deal, and more or less opened it up so we could focus on engagement more than necessarily achievement."

3. Due to the decentralized goal setting and program design, schools maintain significant autonomy over summer program implementation. Thus, the mindset of the principal shapes the programmatic goals and focus at each school. This variance in programmatic design is discussed in more detail in the findings on summer program practices.

Regardless of what caused the myriad of mindsets for the purpose of summer programming, a lack of a clearly defined vision and goals was identified as preventing the program from achieving a greater impact for students. According to school leaders, the goals are undefined and unaligned to the program's current implementation:

"I think if we clarify our goals and objectives we wouldn't have as many pitfalls. I think right now it's so loose and up for interpretation [and] that is where a lot of our obstacles come from."

"The goals are instructional, but the results are not."

➢ *System-Level Supports and Shortcomings*

The quality of summer programming is influenced by several district and program factors. CCPS's middle school summer program inputs include some best practices, while also lacking in a number of key areas as well. Specifically, while the district provides funding and planning support, there is no designated summer planning administrator at the district level nor partnerships with external partners to support summer program implementation at the school-level.

District funding. High quality summer programs require substantial financial resources. CCPS provides several resources including program budget planning and school-based allocations for staffing. Each year, the district middle school leader meets with school principals to discuss what they would like to include in the total program budget for the next summer. This budget plan is submitted to the superintendent in November and then must go through an approval process with the board. Whatever is approved in the final budget provides the framework for the program schools can then implement in the summer. According to a district leader, "Our budgeted plan amounts to paying teachers to plan and teach the summer program."

In our review of past budgets, CCPS used a funding model which allocated $25 per student for the total enrollment of each school rather than a per pupil amount for summer program enrollment. We then compared each school's planned budget to their projected summer enrollment to determine the summer per pupil allotment. By allocating funding based on total school enrollment rather than summer school enrollment, the summer school per pupil budget varies by school:

Table 3.1: Summer Programming Budget Breakdown

2019 Summer Remediation Budget			
School	**Projected Budget**	**Projected Summer Enrollment**	**Projected Per Pupil Cost**
Denim	$9,151.07	51	$179.43
Gray	$16,362.52	90	$181.81
Hazel	$13,154.93	85	$154.76
Maroon	$16,362.52	60	$272.71
Purple	$12,063.96	85	$141.93
Sapphire	$14,916.04	90	$165.73
Turquoise	$11,370.26	100	$113.70
White	$10,859.02	120	$90.49
Total	**$104,240.32**	**681**	**$153.07**

However, these allocations are solely for schools to compensate the lead teacher, classroom teachers, instructional paraprofessionals, and clerical professionals based on set hourly wages. Any other costs such as food or transportation are provided by the district, ensuring that each school's basic program needs are met.

District Planning. High quality summer programs begin planning early and dedicate full-time administrative positions to focus on summer planning efforts. At CCPS, the district provides leadership through planning meetings with middle school principals and the Leadership and Organizational Development (LOD) Team. The district primarily sees its role as providing the framework and guidance for school leaders to design and implement their school-based programs, as discussed by various district leaders:

> *"To make sure we're all moving in a positive direction, and supporting that. It's a combination of leading and honestly supporting the leadership in others to move in a positive, forward direction."*

> *"My role was planning, district overseeing. Principals were given autonomy to provide the experience for their kids. We don't oversee the day-to-day activities."*

At CCPS, while various district leaders support the planning of summer programs, there is no designated district staff for this specific work, as mentioned by one district leader:

> *"Summer programming needs someone who is much more leading the charge so there is a go-to lead for the planning and implementation of it each year. While it's unlikely this could be a full-time position like a Director of Summer Programming, it needs to be part of somebody's position."*

By design, CCPS's program model assigns more autonomy to school level leaders, who are responsible for identifying students who qualify, communicating with families, and hiring teachers for summer programs. When asked how the district leads the decision-making and planning process for summer programs, district leaders described less formal and sporadic conversations between district and school leaders:

> *"[One of the district leaders] would say: 'Uh, maybe we need to look at this differently.' And then he and I would have a meeting, and then we'd bring the principals in and we'll talk about it usually."*

"I've never seen the decision-making done in a systematic, data-driven way."

School leaders described a similar non-standardized process for planning and implementing summer programs. While one school leader did mention concern with potential increasing standardization, most school leaders expressed the greatest concern was a lack of resources to alleviate the district-level budget constraints which limit school-level decision-making for programs:

"...we have to do what the [district] gives us the opportunity to do. Now, how we go about administering that might be a little different at each school, but the constraints are the same for all of us."

"I really wish we had more money to have more students."

"I wish that we had a clear vision and mission with our summer program...I also wish that we had a shared - there's budget concerns, but there's also the teaching pool…"

Engaging partners. Finally, high quality summer programs engage external partners, including families, community-based organizations, foundations, and private summer learning organizations, to help plan and implement effective summer learning opportunities. The program at CCPS is entirely district and school planned and operated. When asked about parent engagement, school personnel expressed in general that the extent of parent engagement was communication regarding summer school enrollment and providing transportation for their child to and from school each day. According to school leaders, the lack of district-provided transportation created a barrier for many families to participate. However, many expressed a missed opportunity to engage families to build buy-in for summer program participation:

"For summer learning I would like to see a family engagement piece...inviting parents to do a session to come and hear about what summer program is going to look like, what it's going to offer their students, and more communication on where we're headed on the front end."

"It's about building relationships with families and our community and reworking the stigma associated with summer school...make sure they understand it's not just coming in and doing multiplication facts. They're going to come in and actually produce something."

Question 1B: Practices

What practical and pedagogical elements define summer programming?

Over the course of CCPS receiving funding earmarked for summer programming, schools have largely been allowed to conduct their own programs in their own ways. The district has generally taken the responsibility of overarching, structural decisions and planning, leaving the day-to-day decision-making and planning to schools and their administrators and teachers. There have been moments in the recent past in which the schools and/or the district have attempted to collaborate on decisions regarding practice and implementation, including a push three years ago to a focus on student engagement over making academic gains and a pre-COVID push to align priorities and yearly themes; however, schools have exhibited varying levels of buy-in to these shifts, and according to one teacher, "Those efforts tended to fall apart for several reasons." Some schools have attempted to implement a thematic and project-based learning approach to emphasize engagement, while most others have maintained the traditional remediation approach. Some schools have continued to stress the need for more consistency across the district, while others have maintained their autonomy. Despite these disparate emphases, there remain very few differences across schools between program components and activities (structure, curriculum, and instruction) because of ubiquitous impediments (outreach, attendance, engagement, and transportation).

➢ *Program Permutations*

Middle school summer remediation programs are school-designed and implemented with general guidance and funding provided by the district. Thus, each school-based program includes the same basic structures but can vary in how the principal plans to meet the parameters set by the district.

District parameters. In addition to joint summer planning meetings and ongoing principal meetings, CCPS communicates two primary guidance documents in late Spring to guide summer planning. The first is a middle school summer programs informational packet which includes the basic expectations for that summer's program, as shown in Table 3.2:

Table 3.2: Middle School Summer Program Guidelines Example

2019 CCPS Middle School Summer Program Guidelines	
Program Duration	*July 8-19, Monday-Friday, 8:00-12:00*
Instructional Requirements	*Certified teachers and support staff*
Selection Criteria	*Rising 6th-8th graders; Each school makes summer school referrals*
Curriculum Guidelines	*Focus on innovative projects, cooperative learning, authentic project-based learning (PBL), with emphasis on math and literacy skills*
Sites	*All middle schools host their own program*
Communication Support	*District summer program link; Family invitation letter template; Registration form; Student information form; Teacher application*

In addition to the initial informational packet, principals receive a summer school planning form in May. The 2019 middle school summer school plan included the following components:

- Program objectives and purpose
- Selection criteria and anticipated summer enrollment
- Curriculum, instruction, and assessment plan
- Family communication plan
- Staffing plan and budget (with set rates and maximum hours for teachers, paraprofessional, clerical staff, and a lead teacher)
- Program evaluation plan

Each school completes the form in a Google document, which is shared with the district staff. School plans are due by early June.

School plans. As mentioned before, each school has the autonomy to design its own school-based summer program within the guidelines set by the district. The result is an inconsistent implementation of the district-run summer program. Schools can identify their own program objectives and program evaluation metrics, making comparison across schools challenging. While the general structure of summer school remains similar in each of the eight schools, the nuanced differences in the purpose, curriculum, instructional strategies, and program evaluation may challenge the district to determine overall program effectiveness.

A comparative table can be found on the next page.

Table 3.3: Middle School Summer Program Plans By School

2019 CCPS Middle School Summer Program Plans								
	Denim	**Gray**	**Hazel**	**Maroon**	**Purple**	**Sapphire**	**Turquoise**	**White**
Program Objectives & Purpose	Academic summer camp providing rigorous, engaging, and interactive activities	Provide data-based reading, math, social studies, and science intervention to students	Google Classroom based remediation program for students having difficulty in reading and math	Provide targeted reinforcement of English/reading and math standards	Engage in hands-on, real world learning experiences focused on environmental issues	Meet needs of struggling students in reading, writing, and math	Meet needs of struggling students in reading, writing, and math; "Summer Discovery" theme	Meet needs of struggling students in reading, writing, and math
Selection Criteria	STAR and MAP testing; State test results	First and third quarter grades; teacher recommendations	Failing grade in reading or math; teacher recommends based reading or math state assessment	Based on academic deficiencies; Cut score on state math and reading tests	None provided	**	Teacher recommends based on classroom performance and standardized assessments	Student year-end data; Students with a D or below
Total School Enrollment	620	935	978	939	842	779	1,036	910
Anticipated Participation	7th: 13 8th: 13	7th: 30 8th: 30	7th: 25 8th: 25	7th: 20 8th: 20	7th: 20 8th: 20	7th: 30 8th: 30	7th: 10 8th: 10	7th: 40 8th: 40
Curriculum, Instruction, & Assessment	English and math curriculum; Remediation of student needs based on school year assessment data	State standards for math, reading, social studies, and science; Blended learning; Math individualized based on student school year data; Reading PBL informed by student reading levels; STEM-based skills to support math and reading	Thematic unit driving both math and reading; Content and assessment based on learning objectives provided by math and reading coaches	CCPS curriculum resources and state standards; Encourage hands-on instruction with individualized assistance "as time permits"	Environmentally-themed PBL enrichment; Project-based student groupings	Math and reading comprehension skills; Differentiated instructional strategies and learning activities	Learning stations approach with activities linked to "Discovery" theme; Reading: Novel study with targeted skills; Writing: Writing in response to literature with targeted skills; Math: 7th - proportions and fractions; 8th - algebra and fractions	Individualized instruction based on internal and state assessment data; Engaging, motivating, and targeted cross curricular student-centered learning experiences
Communication to Families	Daily emails	Notification letter; Weekly report on student progress; Final letter to parents with continued summer practice for students	Invitation letter; Phone call reminder; End of program growth result letter	School newsletter; Website; School marquee; Letters home; Communication from counselors; Parent conferences	Letter home; Phone and/or email if needed	**	Invitation letter; Newsletter; Website	Invitation letters; Phone and email reminders; Weekly progress reports
Staffing	7	11	9	11	9	10	8	7
Budget	$9,151.07	$16,362.52	$13,154.93	$16,362.52	$12,063.96	$14,916.04	$11,370.26	$10,859.02
Evaluation of Effectiveness	Teacher-designed formative and summative assessments	Student goal setting and reflection; Weekly report of goals; Teacher-designed assessments; Project rubrics	Pre- and post-test	Change in pre-program and post-program data; Anecdotal records of teaching staff	Pre- and post-test	Student and teacher questionnaire; Pre- and post-test	Student portfolio with student work samples	Daily informal observations; Exit slips; Quizzes; Cumulative project

*Note: **Data missing from documentation*

When we triangulated our document findings with staff interviews, we further observed a disconnect between the plans and the perceptions around summer school. For example, while all school plans included language evoking hands-on and engaging learning, school leaders described how they implemented this at their schools:

> *"I basically said, 'Here's a computer, let's make this happen.' So, we did. Every kid had a Chromebook, and it was more interactive and technology-driven."*

> *"Typically, we definitely rely on our reading and math specialists to help do the training and guiding [teachers] through what they are going to work on."*

> *"The idea I came up with was a thematic approach - still in that PBL style, but in a thematic approach. I wanted to base it off one theme, and I wanted a child to go into math class and work on math skills with that theme and then walk into reading and work on reading skills in that same theme."*

> *"We do a cross-curricular approach...So, addressing essential standards they may have missed in the previous school year, trying to build and fill foundational gaps."*

While each school leader had the same district directive, their program design included various strategies to engage students in learning, including technology-driven work, relying on instructional planning expertise, PBL, and cross-curricular approaches.

In addition, despite each school having an evaluation plan, most school leaders and teachers were unable to use quantitative measures to define the effectiveness of their program. Half of the schools planned to use a pre- and post-test to measure program effectiveness, and 75 percent of schools cited some form of test-based performance measure. However, during our interviews, school leaders and teachers overwhelmingly cited anecdotal and largely social emotional measures of program effectiveness:

> *"I don't necessarily look at like testing data, but the students were very much more comfortable when answering questions and working through problems…" (school leader)*

> *"Even though we have pre- and post-tests…it's hard to see whatever we provide for them really takes them to the next level." (school leader)*

"And it's moving away from that data-driven and more anecdotal - did the kids get anything out of these 12 days? Did they seem to enjoy themselves?" (school leader)

"We do a series of evaluations through the summer...I always follow up with the students I had during the school year, and their teachers, and ask if they are getting it." (teacher)

"The students had a blast, and most consistently participated even though they didn't have to, and nothing was graded." (teacher)

Though the district planning tool requires each school to include a program evaluation component, school-level staff tend to perceive the program as too short to show academic growth, thus focusing more on other observed outcomes to illustrate program effectiveness.

- ***Autonomy or Aimlessness?***

As a result of school-based program planning, individual schools were also responsible for designing their own curriculum and instructional plans.

Teachers from each school clarified that the tasks of instructional design were generally placed on the teachers, who had almost full autonomy to design and plan as they saw fit:

"We were totally autonomous. We were just given carte blanche to do what we needed to do to maximize our strengths."

"Almost full autonomy and discretion was given to teachers. We had no structure, routine, or format that was dictated from above at all."

"We were kind of given the world to do what we wanted to do."

This commonly meant that teachers not only had to create the plan for the summer, but they also had to build the curriculum to carry out the plan from scratch. Teachers expressed that they were responsible for decisions regarding instructional content and approach and often made these decisions without full knowledge of who would be in front of them and what particular deficits would need to be addressed:

"We were basically left to our own devices here, so as a math teacher, I used previous standards from the grade students just completed to really figure out what to focus on and hone in on what to do."

"...we built the programming from scratch with all curriculum developed in house."

"There was no structured curriculum or programming either ... [we were just] thinking historically what students needed to be successful in the next grade."

In taking on this task, teachers generally relied on readily available resources, most notably materials already accessible through the curriculum used during the school year or found in other procurable spots (e.g., websites, enrichment materials, etc.). In many ways, teachers felt like they were piecemealing the curriculum together, which gave the feeling of inconsistency:

"There was no structured curriculum or programming either. We just pulled resources here and there from wherever we could to match what we thought should be covered." (teacher)

"You know the resources from some math teachers were provided kind of like piecemeal … so pulling from a lot of a variety of different resources." (teacher)

"Most resources used are programs or resources the school already has." (school leader)

Altogether, we observed a tension in how teachers approach the topic of curriculum planning and development. Generally, teachers appreciate having autonomy over curriculum decisions and design, rather than being stifled by top-down directives or plans. However, there is also a desire for more - more guidance and more collaboration from those in leadership at both the school and district level. In order to better serve students, teachers desire a partnership in the work:

"The hardest part of working in summer programming was not having any guidance." (teacher)

"It would have also been helpful to have guidance on and a consistent curriculum, potentially across the county. Actually, I would like more consistency in general across the county." (teacher)

"As a teacher, it was very frustrating to not have resources, but as an administrator, it is now frustrating to just be left on our own island within the county. It would be less work for all and helpful to collaboratively plan." (school leader)

➤ *Parent and Public Partnerships*

Parental engagement emerged as a common and notable missing component of most schools' programs.

Both teachers and school leaders noted that little was expected of parents, and little was done to bring parents into the fold, leaving their primary task only to provide transportation to and from school during the summer:

"We really only reached out to them if there was any issue or if there were some attendance concerns." (teacher)

"Engagement with parents was really circumstantial like seeing them during drop off or pick up or passing them in the hallways randomly." (teacher)

While schools monitor attendance for students and reach out to parents when challenges arise, only one school noted involvement beyond that, explaining a provision to parents of weekly progress reports, an interim report halfway through the program, and an end-of-session report. The goal was to keep parents abreast of their child's attention, effort, and completion of work, though none of the reports were grade-based. Interestingly, as teachers and school leaders discussed the above-mentioned lack of parental engagement, there was a realization that they could and should have done more in this area, recognizing the importance of parents being involved:

"We just treated it like a regular day of school where students are responsible, but as I say that, I think we could probably do more to bring in parents." (teacher)

"We gave feedback to students, but thinking about only reaching out to parents if there was a problem, I feel horrible about that. It's not what we would do during the school year." (school leader)

"With very little accountability present in the summer, parental involvement would help make summer school have more of an impact." (teacher)

➤ *Multiple Mediators*

Teachers and administrators across all schools mentioned several other components of the program - class sizes, food, transportation, and student engagement - that are essential to summer school's current functioning but need to be improved to make summer school as it should be.

Class sizes. Teachers expressed overwhelming support for the small class sizes, which ranged anywhere from a 5:1 student-to-teacher ratio to a 15:1 student-to-teacher ratio and allowed them to reach students more intentionally, meaningfully, and successfully. However, there was a substantial desire to serve more students than the programs are currently serving, encapsulated by one of several teachers' comments: "I like the intimacy of our groups, but I just keep thinking, if we are trying to make a difference, why are we restricting it to only those who most need it instead of all who do?"

Food. Depending on campus, students received some combination of breakfast, snacks, and/or lunch takeaway items, which teachers and administrators alike noted was crucial in providing the safe and caring environment considered a major benefit of summer programming. Citing background knowledge of many of the families of students who attended summer programming, teachers view the food provision as filling a potential summer void. However, there is a desire to increase the capacity of the food component.

Transportation. Perhaps the most program-affecting mediator noted by all levels of officials involved in CCPS summer programming was transportation. Whereas rising sixth grade students in the Jump Start program are bused to their middle school, rising seventh and eighth graders have no transportation option, thus leaving them to either walk or rely on parents. This overwhelmingly was noted as one of the biggest barriers to fuller participation:

> *"Transportation is the big one. I think that would first break a lot of the barriers." (teacher)*

> *"There would be more access and more participation if there was a bus for students." (school leader)*

> *"Obviously, if there is transportation, that's huge; that's like a number one." (school leader)*

Student attendance and engagement. Finally, student engagement was an important student mediator mentioned across each school site and at the district level, though perceived engagement levels varied by school. One teacher noted, "...students really fed off of the teachers' energy and interest; students were able to tell and played off of that." Teachers mentioned other factors that contributed to varying levels of interest: summer school theme, social opportunities and presence of

friends, time of the day, and whether a teacher employed a traditional or inquiry-based instructional style. Several teachers also noted the impact of the stigma of summer school: "It was very evident that students knew they were the low learners, given their consistent participation in summer [school] across the years, so that can be disheartening" particularly for students who attend multiple years. Relatedly, teachers did note one common theme: engagement tapered off as students got older. Most agreed this was due to declining interest and motivation, particularly given the older groups were often composed of students who had attended several years.

Question 1C: Products

What are understood to be the outcomes - intentional and unintentional - of summer programming?

When questioned about impact, there were two common themes that surfaced in teacher, school leader, and district leader responses: (1) the program is better than it used to be and (2) the program could be so much better and more worthwhile than it currently is. However, when making judgment calls about the impact and success of summer programming, individuals used their own criteria and expectations, rather than any common goal or measure of success, due to the commonly agreed upon concept that the goals and mission of summer programming were undefined. Nonetheless, there was a common agreement that it was good they were doing something, although there remained a mixed view of the academic success of the program and what the balance between academics and student SEL and care should be.

- ***Better than Before, But…***

  Though never a defined, concrete goal, most teachers and leaders recognized that part of the reason students were attending school in the summer was due to academic gaps exhibited but never closed during the year. However, because the goals were undefined, they had a hard time determining how to measure success:

  "I couldn't tell you much about whether we achieved academic content goals." (teacher)

  "…the hope is that they reviewed and got down some things they were already taught. So really the only inherent benefit was really just exposure." (teacher)

  "Any answer I would give you right now would really just be conjecture. I really don't have any evidence." (teacher)

"But I do think we need to take a look at the way we currently do summer school and modify that we're doing meaningful instruction in that time. I don't know that in 12 days I can give the best instruction that they need to meet their needs." (school leader)

When asked what they believed were the academic benefits for students, teachers and leaders both had a difficult time determining whether the programming really made a difference:

"I say this very hesitantly, but I do think that it did some good." (teacher)

"It could [make an impact], but I don't think we ever really did." (teacher)

"…I think we meet their goals as best as we can." (teacher)

"Um....not in the current state. As much as we put into - the time and effort we put into the learning and instruction, I don't know how effective it is on the student side." (school leader)

"There have been bits and pieces that have been good, overall it has not been great. I think what we learn from that, and it can be so much better. I think we're moving in a really positive direction." (district leader)

Several teachers discussed the secondary academic benefit of keeping students engaged in the academic setting during the summer. They noted the importance of students maintaining some sort of routine and engagement with school that translated into a major benefit for the transition into the subsequent school year; however, teachers and leaders alike were simultaneously unsure of whether that was a lasting benefit based on how the program was actually received:

"There [were] some who made some growth in these realms, but for many, it maintained a routine that was necessary. I think that might be an overlooked thing." (teacher)

"We wanted to keep brains academically engaged…while maybe addressing underlying skills that prevented academic growth, but honestly I was never really sure what those skills were." (teacher)

"I think we do the best we can. There are some students that just don't buy into it." (teacher)

"The logistics, the organization, the software is fine. Trying to meet the students' individual needs - that's where we can continue to grow. Personalize it." (district leader)

On the whole, teachers often summarized their thoughts in this realm around the narrative that they were glad they were doing something to maintain student learning but were not sure about the true impact in terms of advancing student learning:

"Students who need the enrichment and skill building would probably just fall behind a little bit more if we took away the summer school experience, but it's not like we'd be giving up major gains being made." (teacher)

"Might not keep them completely up to date but keeps them from sliding back as far as they would have without it." (teacher)

- ***SEL Success***

When asked to discuss non-academic benefits and outcomes, teachers and leaders overwhelmingly and positively reported an impact on students' SEL skills, noting that this had not only the ability to bring students into the community of the school more but also potentially impact their academic performance:

"I mean the focus for us was always really on what do these kids need for SEL preparedness, and for that purpose, we got them comfortable being students here." (teacher)

"There was definitely a warmer SEL feel and connection to the people in the building and middle school as a whole during the next year." (teacher)

"I would actually start with the social emotional...we've done a lot of training with SEL, and talking about trauma...it really blocks learning if they're not in the right place." (school leader)

"The social-emotional learning is huge. We can meet some of these needs." (district leader)

This SEL impact influenced the relationship building – both student-to-student and student-to-teacher – that teachers and leaders commonly noted as another benefit. Because the environments were smaller and more intimate, teachers and leaders saw the benefit of student interaction in these settings:

"In the midst of academics, students were able to build better relationships with teachers that they had already or will have..." (teacher)

"So, the most beneficial thing sometimes that I think our students get through the summer program is that our students have the opportunity to really get to know trusted adults in the building. And those relationships carry into the school year." (school leader)

Distinct from SEL but related was also the presence of general care for students and their well-being, particularly for at-risk and most in-need students. These students were often cited as one of the main reasons teachers and leaders were glad they were doing something during the summer, as noted previously:

"Since most programs are focused on kids deemed higher risk, summer programming provides them a safe place to be, a social group to engage with, and something to do during the summer. This is essential for these kids to have this more positive, supervised environment, especially for those who live in rougher neighborhoods and who often do not have access to positive experiences otherwise during the summer." (district leader)

"I would say it would be unfortunate if the schools were to get rid of it, just from a clear standpoint of a socio-economical viewpoint of it all." (teacher)

"Loving on kids, feeding kids, giving them a safe place to be. Building those relationships…" (district leader)

It is important to note that an academic focus seemed to be overshadowed by the focus on and benefits of SEL. Because there were no clear goals for summer programming, SEL objectives became central for teachers during the summer and where teachers saw the greatest impact:

"[It] all led to the understanding that academics would be second to feeling safe and welcome in the environment, particularly for students who need it the most…" (teacher)

"Sometimes, I think people look more into the kids having fun than they look into what do the kids need to grow." (teacher)

"Kids had fun, and that was our main thing; [for] many, maybe they learned something on the way. I thought it was related to some goals in school: who

cares if you teach the content as long as the kids know someone cares about them and loves them." (teacher)

"Just to connect with students - that's what I believed to be the primary goal. There were secondary goals, but that [goal] was so monumental that this is all it came to be." (teacher)

- ***Jump Start's Judiciousness***

Occurring alongside the academic programming for the rising seventh and eighth graders, the Jump Start program for rising sixth graders allows schools the ability to "onboard" students and show them the expectation for "how you'd act as a middle schooler." Though not the program of focus for the purpose of our research, teachers felt they made more of an impact and were better able to see that impact during the summer and subsequent school year by focusing on "what students struggle with during the day." In one area, teachers felt this experience benefitted students academically:

"It's been very successful in terms of meeting kids' needs, those who need the comfortability factor in addition to the leg up in the educational perspective of content." (teacher)

"The engagement for the rising sixth graders was and is great; they are still at that age where they are still excited about school for the most part and more eager to please. It definitely felt [like] they were invested. I can't recall a single situation where I had a student struggle to follow through on activities." (teacher)

In another area, teachers felt this experience also gave students an advantage socially and environmentally within the world of middle school:

"...they came in knowing the school before all of their other classmates did, so I think that kind of gave them a sense of, I don't know, importance. They knew how to open a locker and the kids next to them didn't, so I think that helped." (teacher)

"They were almost like a brand ambassador or an influencer type of thing, where they were able to act in a leadership role [the next year]." (teacher)

Overall, there was distinct confidence in this social transition success - confidence that permeated both what and how teachers considered the impact they were making on students who were at a pivotal moment in their academic careers. Particularly for

teachers who had taught both forms of middle school summer programming, there was a sense that the Jump Start program was closer to where it should be than its remediation-focused counterpart.

A Note on COVID-19

This study was conducted during the 2020-2021 school year – one that was impacted significantly by the COVID-19 pandemic – and even though it heavily focused on years prior to the pandemic, several points of interest did surface during our interviews with teachers and leaders. Two of particular note are included here.

Lessons Learned from Summer Programming during COVID-19. Teachers interviewed who also taught during the 2020 summer noted an almost universal shift to real-world, project-based style content and learning. While some schools adopted more academic focus than others, there was near unanimous agreement that the engagement from students was increased from previous years. Teachers felt this was in part due to the more applicable content and the move away from straight ELA and math remediation. Teachers also felt they were able to infuse more fun opportunities because of the wide-open scope of planning afforded them.

Opportunity for Change. School leaders remained eager for enhancing the summer programming and, in the midst of ongoing change to the schools and district due to the pandemic, felt this might be an opportune time to make wide-reaching changes to summer programming.

IS THERE A RELATIONSHIP BETWEEN SUMMER PROGRAMMING AND STUDENT PERFORMANCE?

This big question is perhaps the one that is most of interest to the district; essentially, does summer programming work? Does it prevent learning loss, help narrow the achievement gap, and/or equip students to be more successful in subsequent years? With district benchmark assessments as the primary proxy for student performance, we answer this question with caveats.

A landscape assessment and multiple approaches to quantitative analysis follow. Ultimately, there was no clear overall relationship between summer programming and student performance, and instances of statistical significance showed opposing outcomes – years of apparent positive impact and years of apparent negative impact of summer programming. The same contrary impacts were evident in sub-population analyses. As will be discussed in our recommendations section, systematic data collection with intentional metrics is a prerequisite next step before truly clarifying answers can emerge. Right now, the data prompt wonderings rather than quelling them.

Data Landscape

Middle school summer programming serves roughly 250 students per summer in the seventh and eighth grade remediation programs and approximately 300 additional students in the sixth grade Jump Start program, a total summer enrollment of about 7% of CCPS's middle school population. The district's population of middle school students skews slightly male (~52% male), but the summer programming skews even further male (~58%). A chi-square analysis indicated a significant relationship between gender and summer programming attendance ($p<.01$) across the four years under study. However, when considering each summer independently, only 2018 demonstrated significance. In most years, it appears there is not a gender bias in summer school attendance.

Chi-square analyses did indicate a clearly significant relationship between race and summer programming attendance in each of the four years and overall ($p<.01$ for all analyses). In each year under study, Black students and Hispanic students were overrepresented in summer programming while White students were underrepresented (see demographic breakdown figures 3.1 – 3.4 and Appendix F for additional remediation program demographic context).

Figure 3.1: Demographic Breakdown of Summer Program Attendance - 2016

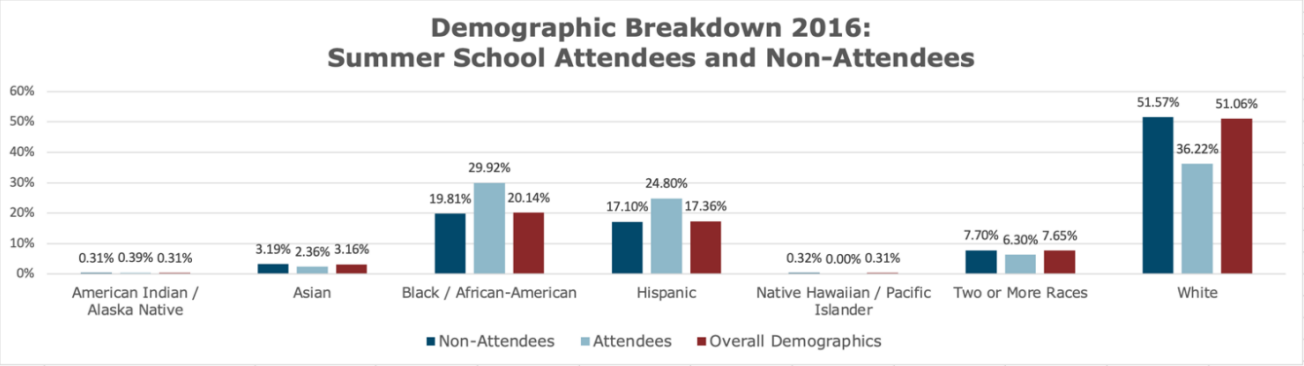


Figure 3.2: Demographic Breakdown of Summer Program Attendance - 2017

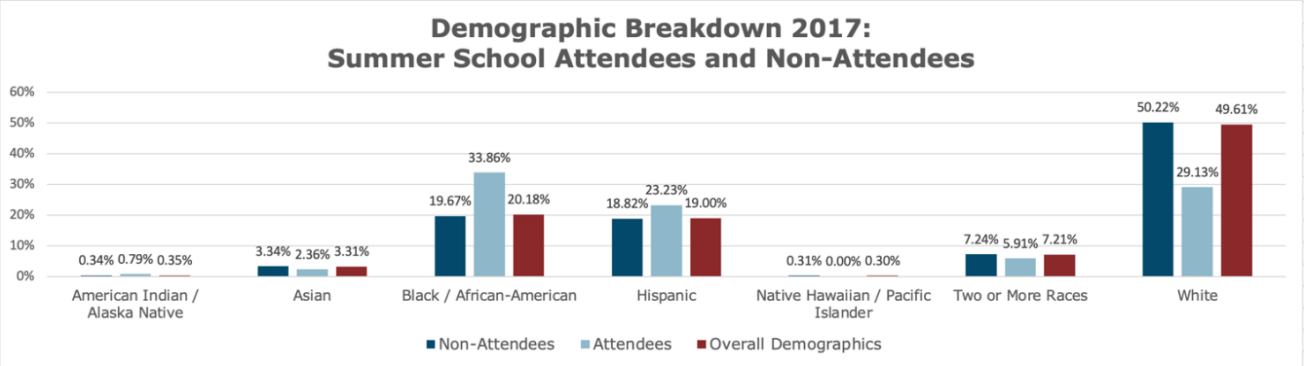


Figure 3.3: Demographic Breakdown of Summer Program Attendance – 2018

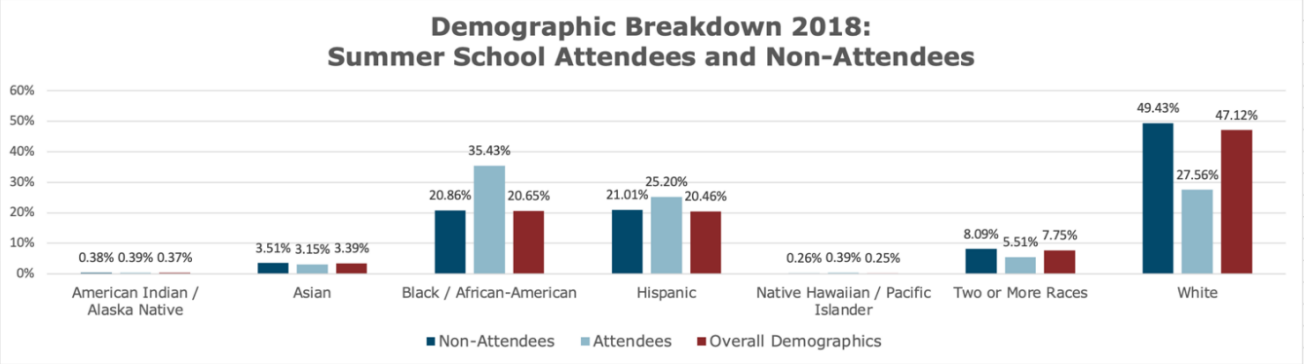
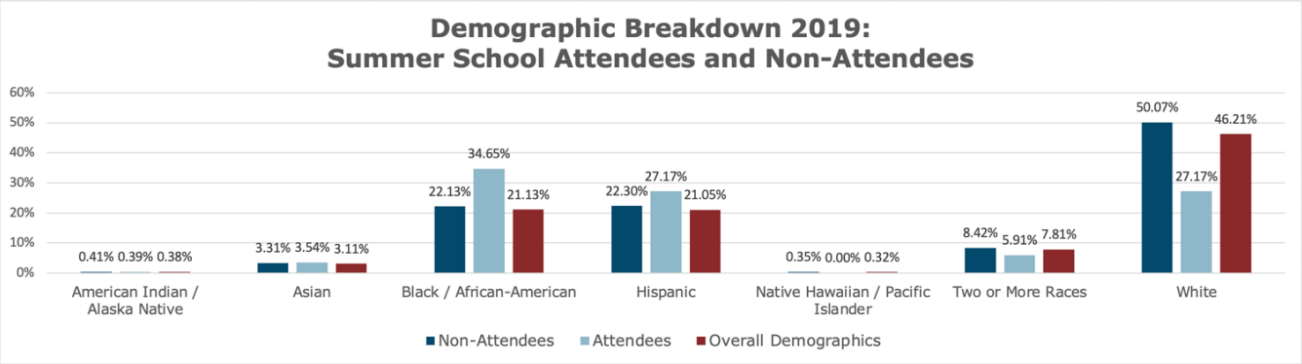


Figure 3.4: Demographic Breakdown of Summer Program Attendance – 2019



Indicative of ever-present racial opportunity and achievement gaps, students of color are more likely to attend summer programming, potentially because they are more likely to have lower standardized achievement scores which prompt referral to summer school. *T*-tests demonstrated significant differences between the scores of White students and students of color in every STAR and MAP testing iteration over the years studied.

Table 3.4: STAR Scaled Score Means Comparison

	STAR Scaled Score Means Comparison									
	Spring '16	Fall '16	Spring '17	Fall '17	Spring '18	Fall '18	Spring '19	Fall '19	Spring Overall	Fall Overall
Mean White	904.56	912.64	914.99	918.85	933.52	934.70	820.55	830.96	909.38	914.26
Mean SOC	783.58	786.65	794.94	799.01	813.98	817.36	696.67	724.34	785.00	791.57
p value	0.000*	0.000*	0.000*	0.000*	0.000*	0.000*	0.000*	0.000*	0.000*	0.000*

Table 3.5: MAP Scaled Score Means Comparison

	MAP Scaled Scores Means Comparison					
	Spring '18	Fall '18	Spring '19	Fall '19	Spring Overall	Fall Overall
Mean White	227.01	226.59	226.14	226.10	226.30	226.19
Mean SOC	224.06	223.05	221.97	221.98	222.42	222.21
p value	0.003*	0.001*	0.000*	0.000*	0.000*	0.000*

Black and Hispanic students comprised 78% of the total students of color represented within the test score data and are the primary focus of disaggregated analyses. The same significance represented in the tables above for all students of color is evident when specifically considering Black and Hispanic students.

Question 2A: Do students who attend summer programming exhibit stronger academic achievement gains in comparison to students who do not attend?

➢ Difference-in-Differences Analyses

Using summer programming attendance as a "treatment" between spring testing and fall testing, we conducted a difference-in-differences analysis for each programming year. No interaction terms demonstrated significance. The associated regressions indicated that summer programming attendance status accounted for very little of the variation in student scores; *R*-squared values ranged from 0.04 to 0.06 for the STAR assessment scores and from 0.06 to 0.15 for the MAP assessment scores.

Further two-way fixed effects regressions for each year and assessment type also demonstrated null results, with the exception of the 2017 STAR assessment, where a significant ($p<.05$) interaction effect indicated a negative impact of summer programming attendance on subsequent benchmark assessment performance.

Table 3.6: Difference-in-Differences Analysis Tables (STAR and MAP)

STAR Assessment
Difference-in-Differences
Average Scores by Treatment Category

2016

	Pre-Treatment	Post-Treatment
Attendees	609.19 (Not Yet Treated)	629.70 (Treated)
Non-Attendees	863.76 (Never Treated)	868.24 (Never Treated)

2017

	Pre-Treatment	Post-Treatment
Attendees	617.00 (Not Yet Treated)	601.36 (Treated)
Non-Attendees	867.53 (Never Treated)	872.94 (Never Treated)

2018

	Pre-Treatment	Post-Treatment
Attendees	579.61 (Not Yet Treated)	578.86 (Treated)
Non-Attendees	884.26 (Never Treated)	886.64 (Never Treated)

2019

	Pre-Treatment	Post-Treatment
Attendees	520.38 (Not Yet Treated)	552.02 (Treated)
Non-Attendees	764.45 (Never Treated)	784.39 (Never Treated)

MAP Assessment
Difference-in-Differences
Average Scores by Treatment Category

2018

	Pre-Treatment	Post-Treatment
Attendees	211.47 (Not Yet Treated)	211.57 (Treated)
Non-Attendees	227.57 (Never Treated)	226.72 (Never Treated)

2019

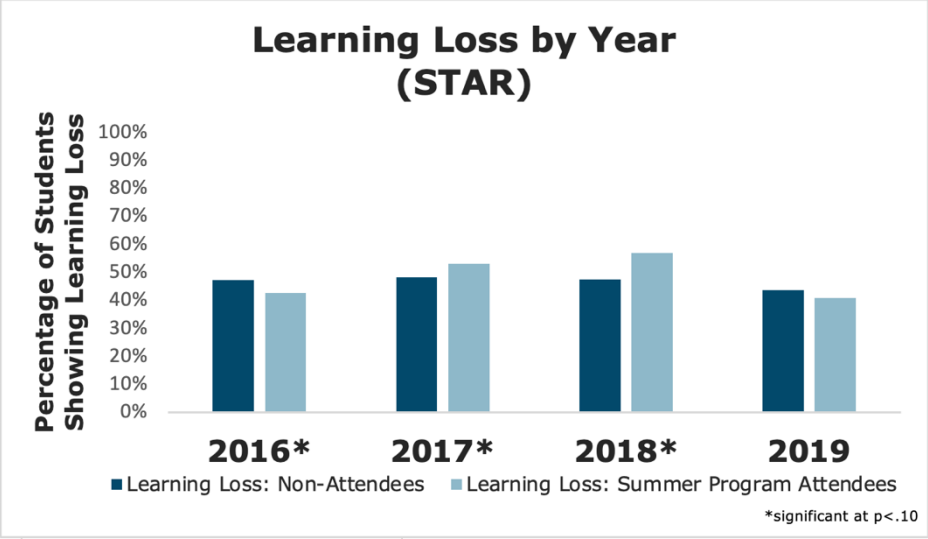
	Pre-Treatment	Post-Treatment
Attendees	212.05 (Not Yet Treated)	212.85 (Treated)
Non-Attendees	225.04 (Never Treated)	224.96 (Never Treated)

Loss Mitigation Analyses

While summer programming would ideally facilitate growth, simply mitigating learning loss may equal success. By construing learning loss as any negative scaled score change from Fall to Spring, we calculated differences between attendees and non-attendees (see Appendix E for all learning loss tables).

STAR assessment. On the STAR assessment, significant differences were evident between attendees and non-attendees in 2016, 2017, and 2018. In 2016, a smaller proportion of attendees showed learning loss while the opposite was true in 2017 and 2018. Across at-risk subpopulations, differences between attendees and non-attendees were only significant in 2018, and each subpopulation showed a higher percentage of students with learning loss in the attendee group (see Appendix E). It is possible this learning loss in the attendee group may be more reflective of the typical lower performance of students requiring remediation and attending summer programming than it is reflective of the quality of summer programming itself.

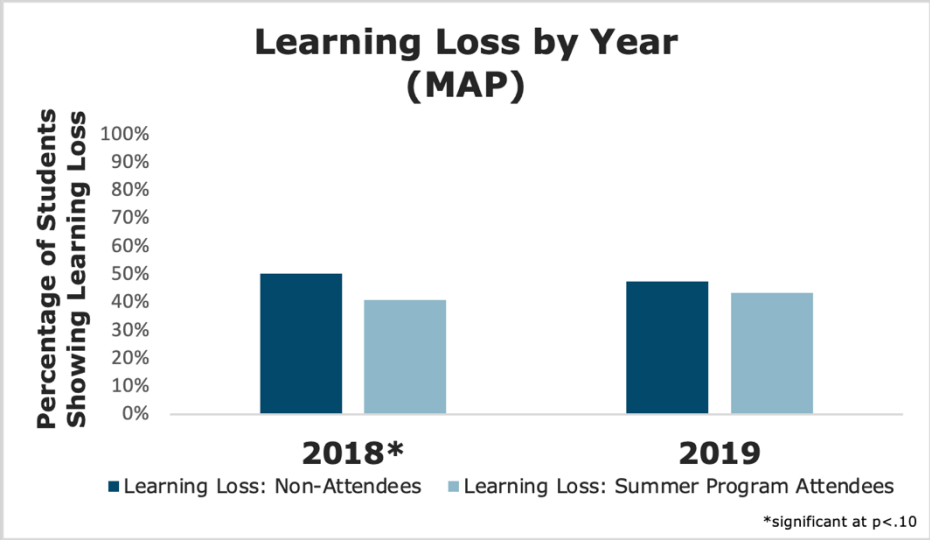
Figure 3.5: Learning Loss Percentages by Summer Program Year (STAR)



MAP assessment. On the MAP assessment, there was much less annual cohesion than on the STAR assessment. While the total sample of students showed a significantly lower percentage of students with learning loss in the attendee group in 2018, no subpopulations demonstrated significant differences (see Appendix E). In 2019, while

the overall sample indicated no significant differences between attendees and non-attendees, Black attendees and male attendees showed significantly (p<.10) lower percentages of learning loss.

Figure 3.6: Learning Loss Percentages by Summer Program Year (MAP)

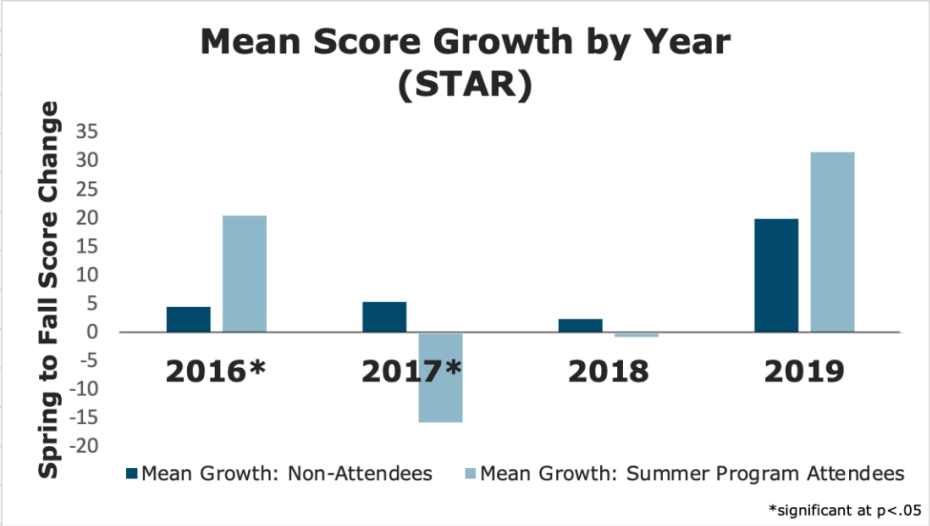


- **Modified Difference-in-Differences Analysis – Growth Score Comparisons**

If opportunity and achievement gaps are to be closed, mitigating learning loss is not enough. Summer programming should not only slow the slide but would promote student growth in the classroom and on benchmark assessments. For all students with testing data for both Fall and Spring, we created "Growth Scores" and compared summer program attendees to non-attendees (see Appendix G for full school-by-school growth score comparisons).

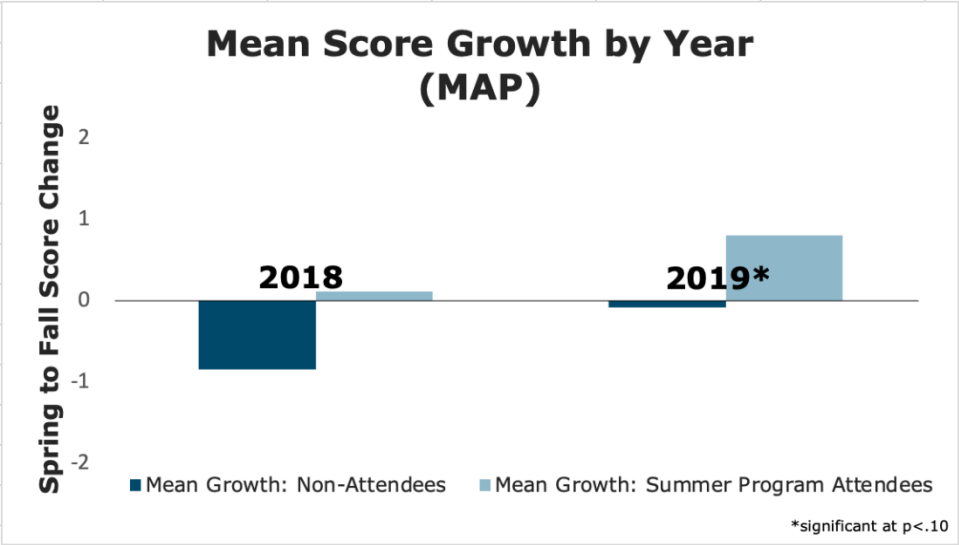
Summer program attendees significantly outpaced non-attendees in 2016 while the reverse was true in 2017. In 2018 and 2019, differences were not significant on the STAR exam, and were significant at only the p<.10 level on the MAP exam.

Figure 3.7: Mean Score Growth by Summer Program Year (STAR)



The stark contrast between 2016 and 2017 on the STAR assessment does not have a clear rationale. A skewed sample is unlikely as these were the two years with the highest data representativeness. Interview subjects did not provide any specific information about the programming that would identify a cause for this contradictory data, but it would be worth considering whether any specific changes to the summer programming process occurred between summers 2016 and 2017 and could be correlated with this dramatic downward shift in performance for student attendees.

Figure 3.8: Mean Score Growth by Summer Program Year (MAP)



Question 2B: Do students of color exhibit academic gains after attending summer programming?

We certainly wanted to address issues of equity and particularly outcomes for students of color. These students comprise a large proportion of those requiring remediation and attending summer programming and are therefore of particular interest. The same trends seen overall are also evident in the two primary subpopulations under study, students identified as Black and students identified as Hispanic.

Mirroring the entire population of students, Black students exhibited academic gains in 2016 and decreased performance in 2017 on the STAR exam, with no statistically significant differences evident in 2018 and 2019. Differences between Black student attendees and non-attendees were also not significant in either year of the MAP exam.

Figure 3.9: Mean Score Growth by Summer Program Year for Black Students (STAR)

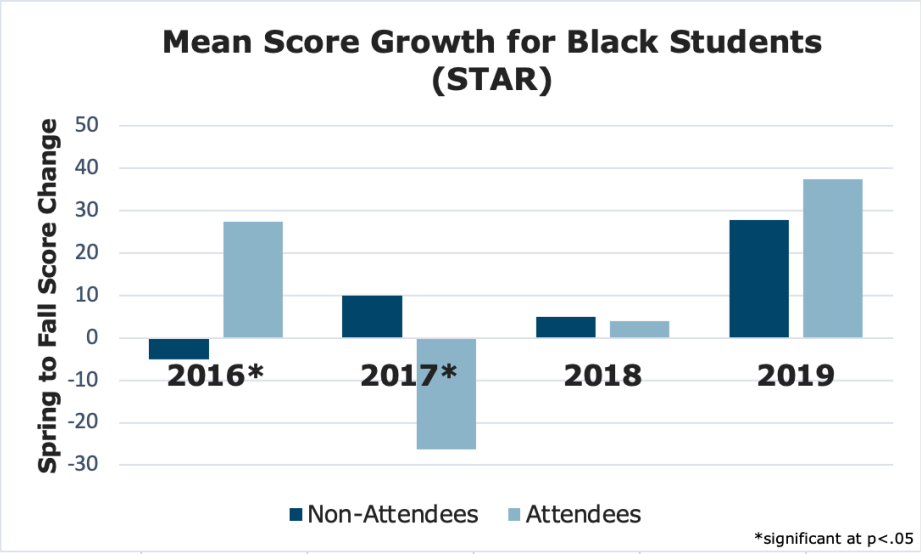
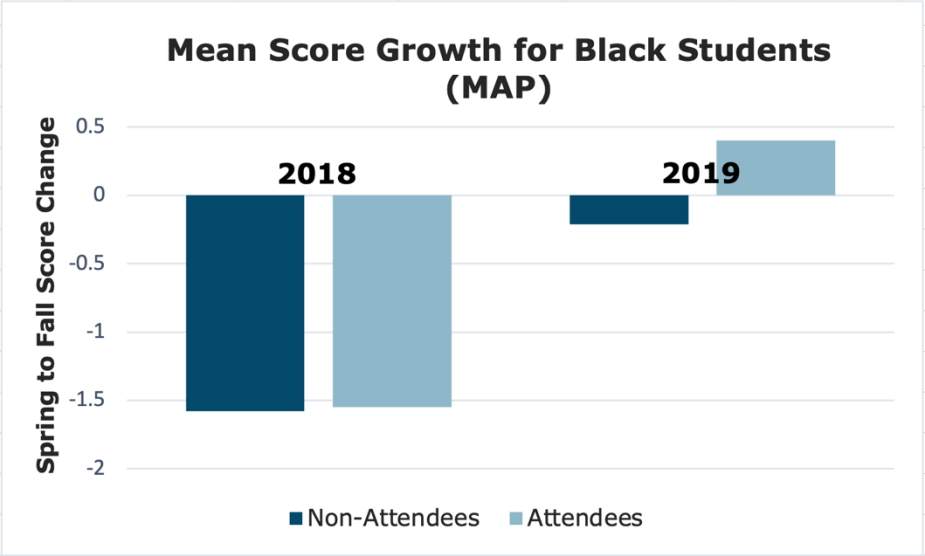


Table 3.10: Mean Score Growth by Summer Program Year for Black Students (MAP)



Hispanic student attendees and non-attendees did not show statistically different scores on any year of the STAR exam. On the MAP mathematics assessment in 2019, however, Hispanic attendees significantly outpaced Hispanic non-attendees. This is again representative of the overall data, which showed significant growth gains for program attendees on the MAP assessment.

Figure 3.11: Mean Score Growth by Summer Program Year for Hispanic Students (STAR)

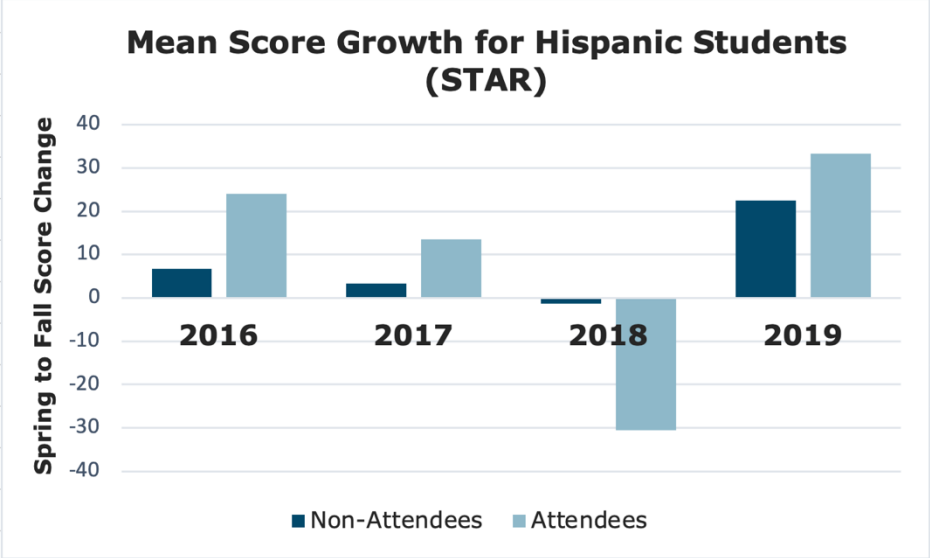
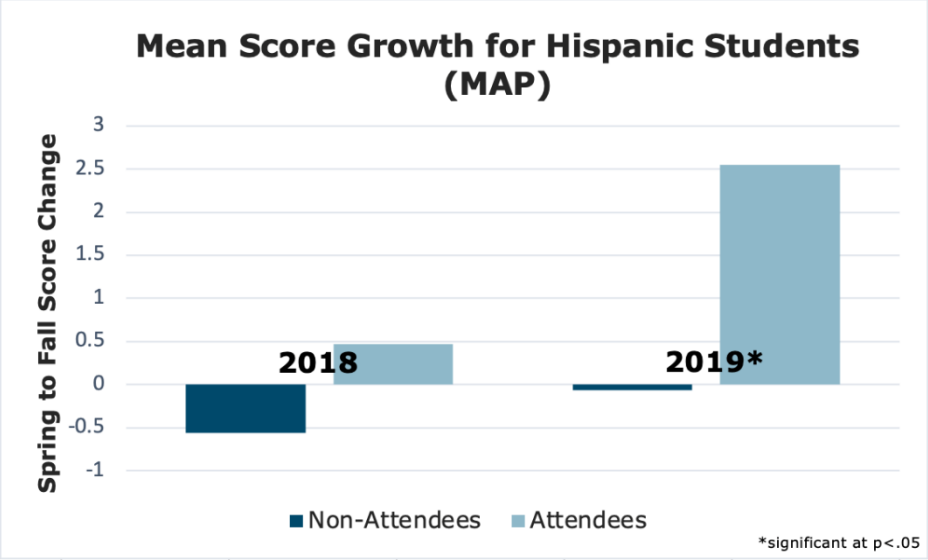


Figure 3.12: Mean Score Growth by Summer Program Year for Hispanic Students (STAR)



Our scrubbed data did not provide information as to which - if any - of the Hispanic students in our data set were also English language learners, but a future evaluation of summer programming might choose to differentiate between Hispanic ELLs and Hispanic students who are not ELLs, particularly on the STAR exam, which is based on language (reading) skills.

Question 2C: Does attending for multiple summers enhance the program's impact on achievement?

While we conducted analyses on the smaller sample of students with complete data sets who attended one or two years of summer programming, multi-year attendance impacts were difficult to measure in light of data insufficiencies. The groups of students attending zero, one, or two years of summer programming were not matched, and we cannot assume any equivalence between these groups. Ultimately, no significance was indicated in any analysis. Additional analyses with factor variables that would facilitate matching may help future assessment of multi-year attendance.

Figure 3.13: Mean Score Growth by Multi-Year Attendance Status (STAR)

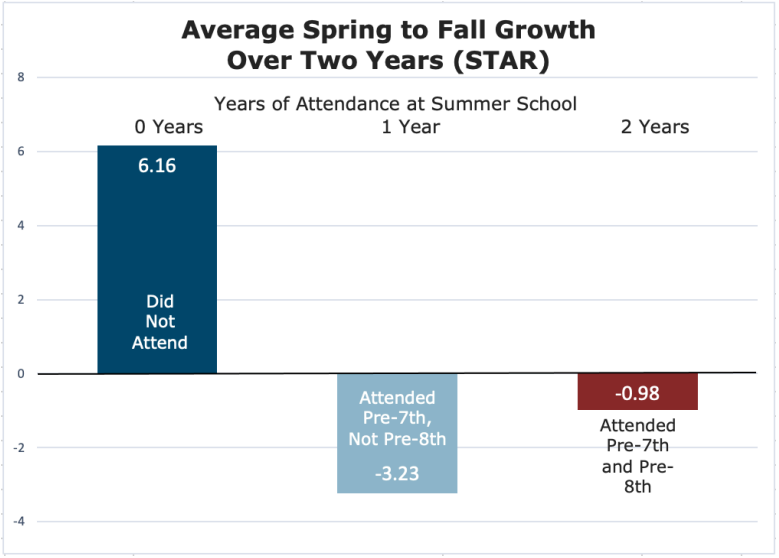
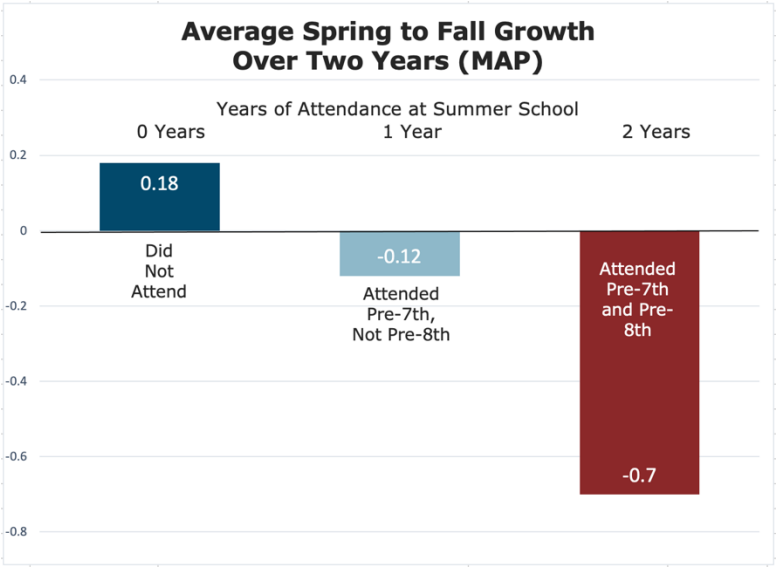


Figure 3.14: Mean Score Growth by Multi-Year Attendance Status (MAP)



Quantitative Data Conclusions

We looked at quantitative data from multiple angles and did not emerge with a clear picture of what happened in summer programming between 2016 and 2019. While there are some potential bright spots - particularly in 2016 - there are no evident trends or predictive conclusions to be made. Table 3.7 summarizes the analytical approaches and results of this study's quantitative component.

Table 3.7: Quantitative Analysis Summary

Analytical Approach	Results
Landscape Analysis (Chi-Square)	➢ Minimal gender bias to summer programming attendance (2018 only) ➢ Race significantly related to summer programming attendance
Referral Score Analysis (Means Comparison)	➢ Students of color score significantly lower than White students on these benchmark assessments ➢ This difference may explain these students' greater likelihood of attending summer programming
Difference-in-Differences (Multiple Regression)	➢ No significance indicated: attending summer programming does not predict a change in assessment scores. ➢ Summer programming attendance status accounts for very little of the variation in scores.
Loss Mitigation (Means Comparison)	➢ Contrary indicators ○ STAR: *less* learning loss for attendees in 2016, *more* learning loss for attendees in 2017/2018 ○ MAP: *less* learning loss for attendees in 2018, *no significance* in 2019 except for *less* learning loss for male and Black attendees
Growth Scores (Means Comparison mimicking Difference-in-Differences)	➢ Contrary indicators ○ STAR: *more* growth for attendees in 2016, *less* growth for attendees in 2017 (except Hispanic students who grew more both 2016 and 2017) ○ MAP: *more* growth for attendees in 2019 (also significant for Hispanic students, not significant for Black students) ➢ No significance in multi-year attendance analyses

As evidenced throughout the findings section, our mixed-methods approach allowed for a thorough exploration of summer programming. While quantitative analyses illuminated little regarding overall impact, analyses of interview data yielded promising paths toward improvement. The implications of our comprehensive findings are considered next.

4: Recommendations

RECOMMENDATIONS: THE FOUR Cs

After analyzing our qualitative and quantitative findings, we propose four areas of recommendation: clarity, capacity, community, and continuous improvement. First, we recommend the district provide a clear and consistent vision, purpose, and set of goals to guide school-based program implementation. Second, we offer best practices to build the district's summer learning capacity. Third, we suggest the district engage with the community through parent engagement and external partnerships. Finally, we recommend the development of a cycle of continuous improvement, including systematic data collection and a formal summer program evaluation process.

1. Clarity: Provide a Clear and Consistent Program Purpose

We recommend the district clarify the vision, purpose, and goals of the middle school summer learning programs to better support school-based implementation:

A. ***Set the Vision.*** District leaders articulated their role in setting the vision for middle school summer programs. However, there was also hesitancy to mandate specific programmatic requirements instead of gradually moving the needle in the direction of improvement. While some school leaders and teachers cited their autonomy in program development as a positive, it also led to confusion over the purpose and expectations of summer programs. We recommend the district use its existing leadership structures, including frequent principal meetings and the LOD team, to develop a clear and comprehensive vision and mission for the middle school remediation program. While schools can still maintain autonomy in planning day-to-day activities and learning strategies, a consistent vision for the purpose and desired outcomes of summer programs will help the district better evaluate program effectiveness and monitor progress.

B. ***Set SMART Goals.*** While the summer planning materials provided do require schools to identify the programmatic goals in the spring, most of the goals were broadly defined. In addition, most district and school personnel admitted no clear goals had ever been set. While other factors certainly may contribute to the

growing perception that summer programs are ineffective, currently there is no measurable way to determine whether this is the case. We recommend both district and school-based SMART (Specific, Measurable, Achievable, Relevant, and Time-based) goals aligned to the vision and purpose defined by district and school leaders. Given the overwhelming emphasis of non-academic outcomes by school leaders and teachers, we propose including goals for both academic and non-academic desired outcomes.

C. ***Plan Early.*** Developing a clear vision and SMART goals takes time and advanced planning. The interviews and document reviews illustrated ongoing, informal conversations regarding summer programs throughout the year, an initial budget proposal in late fall, and formal school plan designs in late spring. Best practices from the research suggest at least six to nine months to plan summer programming with a dedicated staff, while others stressed planning for the next summer begins immediately after the current summer program ends (McCombs, Augustine, & Schwartz, 2011). Early planning allows for data-informed reflection on progress made toward goals, a clear vision and objectives to share with external partners, and strategic marketing for students, families, and teachers for the next summer.

D. ***Dedicate Year-Round Leadership*.** High-quality summer programs have strong administrators with time dedicated to summer planning and programming (McCombs, Augustine, & Schwartz, 2011). One district leader mentioned there was no designated summer learning role within the district staff; instead the planning and leadership of program design in CCPS is distributed across the LOD team, district and school leaders, summer program leads, and summer program teachers. While an additional leader focused solely on summer programming may be a larger investment, given the expansive summer programs CCPS offers grades K through 12, a dedicated summer learning staff member could help facilitate year-round planning, data collection, and evaluation of programs. Such an investment in dedicated leadership would improve work streams and provide a consistent eye towards quality and effectiveness across all summer programs.

2. Capacity: Adopt Best Practices and Expand Resources

We also recommend consideration of research-based best practices to increase the quality of and access to summer programming, sustainably:

A. Keep Class Sizes Small. Smaller class sizes were cited by numerous CCPS teachers as an important component of current summer programs. This aligns with research which determined class sizes should not exceed 20 students (Cooper, Charlton, et al., 2000). Moving forward, as CCPS works to increase enrollment in summer programs or considers consolidation of site-based programs, maintaining their current class sizes is integral to providing a high-quality program.

B. Individualize Instruction. Leaders and teachers alike discussed the challenges of providing summer instruction with the wide array of student math and ELA proficiency. Leaders stressed the need to focus on Tier II and Tier III instruction rather than just doing what they already tried during the regular school year. Individualized instruction or differentiation is less challenging in smaller groups. Research indicates that programs which provide individualized instruction were more effective than those that did not (Cooper, Charlton, et al., 2000).

C. Support High-Quality Instruction. High-quality instruction during summer programs is essential to making academic gains. Some school leaders stressed that they were not always able to hire their strongest teachers for summer programs. Many teachers shared that the amount of time devoted to instructional planning was insufficient and that they were often left to create their own lessons from scratch without the necessary resources. According to research, the district can support school-based programs by providing professional development to teachers, supporting hiring practices to recruit the most effective teachers, and providing instructional coaching during the summer (McCombs, Augustine, & Schwartz, 2011).

D. Invest in Engaging Programming. Over the past three years the district has been laying the groundwork for engaging summer curricula that do more than remediate math and reading needs. Some schools have worked to embrace

project-based learning (PBL) programs, and the research supports this shift toward comprehensive programs with enrichment opportunities. In part, engaging programming boosts voluntary participation in summer schooling. Further, it allows summer learning to "feel different" for students compared to the regular school year, investing them in their learning (McCombs, Augustine, & Schwartz, 2011).

E. Increase Instructional Hours. Our document analysis and interviews illustrated variation in the length of CCPS summer remediation programs, ranging from 36 to 44 hours of instructional time spread out over two to three weeks. The insufficient length of summer program was an overwhelming hurdle cited by most personnel interviewed. The research supports increasing summer school hours, though the ideal number of hours is unclear. However, the conservative estimate is a minimum of 80 hours total (McLaughlin & Pitcock, 2009).

F. Provide Transportation. In addition to lengthening the duration of summer programs, providing transportation was also an often-cited necessity to increase program capacity. While the district is not able to overcome all obstacles to enrolling students in summer learning, transportation, while a more expensive option, will remove unnecessary barriers to student enrollment and attendance. The district already offers transportation to incoming sixth grade students for its Jump Start orientation program, and we recommend extending this resource to all middle school students for summer programs.

3. Community: Engage Parents and Community Partners

Engagement of any and all stakeholders is an essential component of providing a quality educational experience in any capacity. Several teachers and administrators spoke about the great lengths that schools and the district go to involve teachers, parents, students, and the greater community during the school year. In order to create summer programming that more effectively reaches and serves students and families, we recommend extending these practices to the summer and establishing more formal, consistent methods to include a wider variety of perspectives in planning and implementation.

A. ***Create Mechanisms for Educators to Collaborate*.** One of the most cited realities by teachers was the burden of planning and creating an entire curriculum for the summer without much support or guidance. Without any structure, there lacked consistency both within and across schools. However, one indicator of highly successful summer programs is a "structured curriculum" as it helps to "overcome variation in teacher effectiveness." (McCombs, Augustine, & Schwartz, 2011, p. 64). To achieve this, we suggest developing mechanisms that facilitate collaboration between educators and development of resources to the above ends. To the extent possible, the district should contract expert teachers, particularly in curriculum development, to design summer program material, content, and paths with a focus on both tailoring the product to the current curricula and standards while adding a unique spin to differentiate it from the school year. This team could also be responsible for creating a resource bank to guide planning, assessment, and best practices. Well in advance of the summer, teachers from across the district should also come together to co-plan and collaborate on bringing the developed curriculum to life. These teams should further add to the resource bank, offering teachers more guidance and structure developed by and for themselves.

B. ***Communicate the What and the Why to Parents Early and Often***. Currently, documents sent home regarding summer programming do not indicate the potential value of the opportunity, instead focusing heavily on the procedures for enrollment, and are sent out in the last month of the school year with little to no structured follow-up or recruitment. Particularly given that summer school is not retention-based, we recommend not only moving up the timeline for sending out materials but also enhancing those materials by speaking to the purpose of summer programming and the innovative opportunity students will encounter. Further, we suggest a more active recruitment of students via both written and oral communication and continued follow-up, strategies which signal a stronger belief in the program and an active desire for a student to be a part of it. Along with transportation, this could prove beneficial to engaging, enrolling, and retaining students throughout the summer.

C. ***Keep Parents Engaged throughout the Summer*.** It is just as important to actively communicate with parents during the summer as well, particularly when considering the challenge of retaining students and maintaining strong attendance. Presently, outside of calling in response to absences, most schools

reported little to no communication with parents throughout the summer. In order to maximize participation and attendance, research points to intentional parental involvement in multiple ways. The district should consider progress reporting on skills, engagement, and effort; providing recaps of content and skills being covered for possible reinforcement at home; and/or offering parental visit days, all focused on continued recognition of the value of the programming and further development of skills being addressed.

D. Collaborate with External Partners to Enrich the Academic Program. While still maintaining rigor and quality, "summer learning should feel 'different' from school-year instruction" (McCombs, Augustine, & Schwartz, 2011, p. 65). Developing partnerships with community organizations to provide enrichment opportunities for students - and when possible, integrating these into the academic setting - would help refresh summer programming and further engage students in the broader summer experience. There are several nature and conservation organizations, arts programs, animal groups, colleges, and athletic establishments that are either focused on or equipped for reaching and connecting with students in an interactive, educational setting. Given that students may initially view summer programming in a negative light, these experiences have the potential to both attract and maintain students, as well as help the district meet several capacity-focused goals noted above (e.g., engaging programming, increasing hours, boosting funding).

4. Continuous Improvement: Formalize Data Collection and Program Evaluation

As this investigation progressed, it was promising to hear the positive comments regarding CCPS's openness to improving the summer program, which reveals a final major area of recommendation: a formalized process of data collection that contributes to a larger, formalized process of ongoing evaluation. An indicator of high-quality summer programs is regular evaluation of effectiveness through various means and tools that lead to applicable recommendations and improved product and results. We recommend two major components to promote these aims:

A. Ensure Systematic and Consistent Data Collection. One of the current challenges for assessing impact of the program is that each school collects its own

data (or often minimal data) and there is no consistent data recording or reporting. In order to establish systematic and consistent data collection across the district, it will be important to set up a structured collection method designed to capture or allow recording of data before, during, and after the summer program weeks. All three time periods will be important to capture data so there is a clear picture of who qualifies, is invited, and enrolls, and the success of recruitment strategies (before); attendance, work completion, student engagement, and parental engagement (during); and pre- and post-assessment performance (before and after). The specific selection of these data points should be directly tied to the established vision and SMART goals set by the district and schools, thus allowing a clear, quantitative snapshot of the programs each year.

B. ***Formalize an Ongoing Evaluation Process.*** A systematic data collection structure then becomes the backbone of a formalized, ongoing evaluation process that renders the processes of improvement regularly occurring. In addition to the data noted above, this evaluation process should include qualitative input from all stakeholders (students, parents/families, teachers, administrators, community/external partners) that allows shared experiences and potential changes to surface. In addition to pre- and post-assessment data directly tied to the summer school content, district assessment data should also be evaluated to determine impact on larger learning gaps and gains. Combined with the prospect of summer programming being placed under a single district leader's purview, this process would allow key information to be compiled and consolidated to drive planning for the next year at all levels: district, school, and classroom.

CONCLUSION

Clay County Public Schools' investment in summer programming is a long-standing enterprise, but the district lacked deep knowledge of that enterprise's nature, impact, and effectiveness in promoting student achievement. In consultation with CCPS, this evaluation process was conducted to develop comprehensive understanding of summer programming's purposes, practices, and products, and to explore whether it was meeting the most baseline of summer school objectives – improving student assessment performance.

While the quantitative data available for this experience produced mostly inconclusive results, qualitative processes permitted an expansive look at summer programming in CCPS's eight middle schools. District leaders expected variation in approaches and implementation across schools, but such variation did not emerge as the primary point of interest; instead, this evaluation illuminated a persistent lack of clarity, some missed opportunities, and gaps between intentions and outcomes.

Despite these current shortcomings, almost all stakeholders communicated value in summer programming and advocated for its permanence. While they articulated that systemic improvement is necessary, teachers and leaders believe deeply in summer programming's potential. Most percevied that ineffectiveness stemmed largely from structural limitations, such as budget and time constraints. These concerns were rooted in wonderings about whether anything meaningful for students can be done or measured within two to three weeks.

Such recognizable limitations are not easily surmounted - as with any endeavor involving student learning, true reform is challenging. High quality summer school programs require a sustained and substantial financial investment and require ample planning long before the end of year. However, in addition to allocating the necessary resources of funding, time, dedicated personnel, and curriculum development, there is no one-size-fits-all model. Successful programs require continuous improvement - assessing what works and being willing to try new ideas. We believe this willingness and potential is present at CCPS, with district leaders, school leaders, and teachers devoted to providing a rigorous, caring, and worthwhile program for their most at-risk students.

The recommendations proposed in this report were derived from deep synthesis of our evaluation's data and research-based practices. Summer schooling has been and remains an intervention of choice for many school districts intent upon advancing student growth and promoting equity; if CCPS is to remain committed to high-quality summer school programs, changes to strategy and function will enhance their value.

In this report we have evaluated the purposes, practices, and products of a middle school summer school remediation program working to close academic gaps for struggling learners. Our proposed intervention model incorporates the most salient research-based strategies, which we have deemed the Four C's - *clarity* of program purpose, expanding *capacity* through adopting best practices, engaging parents and *community* partners, and developing a cycle of *continuous improvement*. Further areas of inquiry and discussion of CCPS's summer program might include a new, more thorough impact evaluation once a systematic evaluation process is established, and a

cost-benefit analysis to evaluate the effectiveness of any new practices implemented as a result of this capstone project. Perhaps even more than specific interventions, this evaluation offers an opportunity to shift another element of the district's education work toward a culture of continuous improvement. Clay County's expanding commitment to iterative growth processes will ultimately serve all students.

5: Resources

REFERENCES

Alexander, K. L., Entwisle, D. R., & Olson, L. S. (2001). Schools, achievement, and inequality: A seasonal perspective. *Educational evaluation and policy analysis*, *23*(2), 171-191.

Alexander, K. L., Entwisle, D. R., & Olson, L. S. (2007). Lasting consequences of the summer learning gap. *American sociological review*, *72*(2), 167-180.

Alexander, K. L., Entwisle, D. R., & Olson, L. S. (2007). Summer learning and its implications: Insights from the Beginning School Study. *New Directions for Youth Development*, *2007*(114), 11-32.

Alexander, K., Pitcock, S., & Boulay, M. (Eds.). (2016). *The Summer Slide: What we know and can do about summer learning loss*. Teachers College Press.

Allington, R. L., McGill-Franzen, A., Camilli, G., Williams, L., Graff, J., Zeig, J., & Nowak, R. (2010). Addressing summer reading setback among economically disadvantaged elementary students. *Reading Psychology*, *31*(5), 411-427.

Andrabi, T., Daniels, B., & Das, J. (2020). Human capital accumulation and disasters: Evidence from the Pakistan earthquake of 2005. *OSF.*

Austin, G. R., Rogers, B. G., & Wallbesser, H. H. (1972). The effectiveness of summer compensatory education: A review of the research. *Review of Educational Research, 42*(2), 171-181.

Beckett, M. K. (2008). Current-Generation Youth Programs: What Works, What Doesn't, and at What Cost? Occasional Paper. *RAND Corporation*.

Bell, S. R., & Carrillo, N. (2007). Characteristics of effective summer learning programs in practice. *New Directions for Youth Development*, *2007*(114), 45-63.

Benson, J., & Borman, G. (2010). Family, neighborhood, and school settings across seasons: When do socioeconomic context and racial composition matter for the reading achievement growth of young children. *Teachers College Record*, *112*(5), 1338-1390.

Borman, G. D. (2000). The effects of summer school: Questions answered, questions raised [Commentary]. *Monographs of the Society for Research in Child Development*, 65(1), 119-127.

Borman, G. D., Benson, J., & Overman, L. T. (2005). Families, schools, and summer learning. *The Elementary School Journal 106*(2), 131-150.

Borman, G. D., & Dowling, N. M. (2006). Longitudinal achievement effects of multiyear summer school: Evidence from the Teach Baltimore randomized field trial. *Educational Evaluation and Policy Analysis*, *28*(1), 25-48.

Boss, S., & Railsback, J. (2002). Summer school programs: A look at the research, implications for practice, and program sampler. Northwest Regional Education Laboratory.

Chaplin, D., & Capizzano, J. (2006). Impacts of a Summer Learning Program: A Random Assignment Study of Building Educated Leaders for Life (BELL). *Online Submission*.

Cooper, H. (2001). Summer school: Research-based recommendations for policymakers, SERVE Policy Brief. SouthEastern Regional Vision for Education.

Cooper, H. (2003). *Summer learning loss: The problem and some solutions*. Champaign, IL: ERIC Clearinghouse on Elementary and Early Childhood Education.

Cooper, H., Charlton, K., Valentine, J.C., & Muhlenbruck, L. (2000). Making the most of summer school: a meta-analytic and narrative review. *Monographs of the Society for Research in Child Development*.

Cooper, H., Nye, B., Charlton, K., Lindsay, J., & Greathouse, S. (1996). The effects of summer vacation on achievement test scores: A narrative and meta-analytic review. *Review of Educational Research, 66*(3), 227-268.

Denton, D. R. (2002). Summer school: Unfulfilled promise. Southern Regional Education Board.

Donohue, N. C., & Miller, B. M. (2008). Stemming summer learning loss. *The New England Journal of Higher Education, 23*(1), 19-20.

Entwisle, D. R., & Alexander, K. L. (1992). Summer setback: Race, poverty, school composition, and mathematics achievement in the first two years of school. American Sociological Review, 57, 72-84.

Grossman, J. B., Lind, C., Hayes, C., McMaken, J., & Gersick, A. (2009). The cost of quality out-of-school-time programs. *Philadelphia, PA: Public/Private Ventures*.

Hazleton, J. E., Blakely, C., & Denton, J. (1992). Cost Effectiveness of Alternative Year Schooling. Final Report.

Heyns, B. (1978). *Summer learning and the effects of schooling*. Academic Press.

Hur, J. W., & Suh, S. (2010). The Development, Implementation, and Evaluation of a Summer School for English Language Learners. *Professional Educator*, *34*(2), n2.

Jacob, B. A., & Lefgren, L. (2004). Remedial education and student achievement: A regression-discontinuity analysis. *Review of economics and statistics*, *86*(1), 226-244.

Kaffenberger, M. (2021). Modelling the long-run learning impact of the Covid-19 learning shock: Actions to (more than) mitigate loss. *International Journal of Educational Development*, *81*, 102326.

Karweit, N. (1985). Should we lengthen the school term?. *Educational researcher*, *14*(6), 9-15.

Kim, J. (2004). Summer reading and the ethnic achievement gap. *Journal of education for students placed at risk*, *9*(2), 169-188.

Kim, J. S., & Quinn, D. M. (2013). The effects of summer reading on low-income children's literacy achievement from kindergarten to grade 8: A meta-analysis of classroom and home interventions. *Review of Educational Research*, *83*(3), 386-431.

Kuhfeld, M. (2019). Surprising new evidence on summer learning loss. *Phi Delta Kappan*, *101*(1), 25-29.

Kuhfield, M., & Tarasawa, B. (2020). The COVID-19 Slide: What Summer Learning Loss Can Tell Us about the Potential Impact of School Closures on Student Academic Achievement. Brief. *NWEA*.

Li, Y., Alfeld, C., Kennedy, R. P., & Putallaz, M. (2009). Effects of summer academic programs in middle school on high school test scores, course-taking, and college major. *Journal of Advanced Academics*, *20*(3), 404-436.

Matsudaira, J. D. (2008). Mandatory summer school and student achievement. *Journal of Econometrics, 142*(2), 829-850.

McCombs, J. S., Augustine, C. H., & Schwartz, H. L. (2011). Making summer count: How summer programs can boost children's learning.

McCombs, J. S., Kirby, S. N., & Mariano, L. T. (Eds.). (2009). *Ending social promotion without leaving children behind: The case of New York City*. Rand Corporation.

McLaughlin, B., & Pitcock, S. (2009). *Building quality in summer learning programs: Approaches and recommendations*. New York: Wallace Foundation.

McMillen, B. J. (2001). A statewide evaluation of academic achievement in year-round schools. *The Journal of Educational Research*, *95*(2), 67-74.

National Summer Learning Association (NSLA). (2012) Best practices in summer learning programs for middle and high school youth. Baltimore, MD: National Summer Learning Association.

Patall, E.A., Cooper, H., & Allen, A.B. (2010). Extending the school day or school year: A systematic review of research (1985-2009). Review of Educational Research, 80, 401-436.

Phillips, M., & Chin, T. (2004). How families, children, and teachers contribute to summer learning and loss. *Summer learning: Research, policies, and programs*, 255-278.

Pitcock, S. (2018). The Case for Summer Learning: Why Supporting Students and Families All Year Is Vitally Important. *American Educator*, *42*(1), 4.

Prime, H., Wade, M., & Browne, D. T. (2020). Risk and resilience in family well-being during the COVID-19 pandemic. *American Psychologist*.

Roderick, M., Engel, M., & Nagaoka, J. (2003). Ending social promotion: Results from summer bridge. Chicago: Consortium on Chicago school research.

Schacter, J., & Jo, B. (2005). Learning when school is not in session: a reading summer day-camp intervention to improve the achievement of exiting First-Grade students who are economically disadvantaged. *Journal of Research in Reading*, *28*(2), 158-169.

Slates, S. L., Alexander, K. L., Entwisle, D. R., & Olson, L. S. (2012). Counteracting summer slide: Social capital resources within socioeconomically disadvantaged families. *Journal of Education for Students Placed at Risk (JESPAR)*, *17*(3), 165-185.

Steinberg, L. (1996). Beyond the classroom: Why school reform has failed and what parents need to do (First Touchstone Edition ed.). New York: A Touchstone Book published by Simon & Schuster.

Von Drehle, D. (2010). The case against summer. *Time Magazine*.

von Hippel, P. (2015). Year-round school calendars: Effects on summer learning, achievement, parents, teachers, and property values.

White, W. (1906). Reviews before and after vacation. *American Education*, *10*(3), 185-188.

Winship, S., Hollister, M., Horwich, J., Sharkey, P., & Wimer, C. (2005). Promoting educational achievement and opportunity through summer scholarships. *Center for American Progress*.

Wiseman, A. W., & Baker, D. P. (2004). The American summer-learning gap from an international perspective. *Summer Learning: Research, Policies, and Programs, Mahwah, NJ: Lawrence Erlbaum*, 53-69.

World Bank. (2020). The COVID-19 pandemic: Shocks to education and policy responses.

Appendix A

Stakeholder Analysis Table

Stakeholder	Interest or perspective	Role in evaluation
District / Office of Program Evaluation* (Main)	To evaluate effectiveness of summer programs; identify best practices; determine what additional investigation is required	Provide insight, information/data, and access Determine how to use and communicate findings to individual schools
Students	Benefit from successfully implemented summer programs	Passive: Their data will inform impact of program on their growth
Program Leadership and Staff	To use findings to inform changes or codify best practices for next year	Provide data: interviews; documents
School Leadership and Staff	To know what impact summer programs have on students; to determine how or who to refer for programming	Provide data: interviews; documents
Parents/Families	To know whether the program is serving their child's needs	Passive: Their anecdotal prior engagement and feedback will inform understanding of program functioning

Appendix B

Logic Model

Logic Model	
Resources/ Inputs	• District supports: middle school coordinators; funding • School supports: leaders, teachers, and other staff; resource allocation; schedules; food service; transportation; parent communication • Summer curriculum (e.g., math, ELA, social emotional) • Technology
Activities	• Identifying program participants • Identifying teachers • Securing funds • Identifying curriculum and assessment tools • Communication with students and parents • Math instruction and supports • Reading/ELA instruction and supports • ESL instruction and supports • Operations: arrival, attendance, breaks, snacks, dismissal • Social-emotional activities (e.g., games, relationship building, etc.)
Outputs	• Summer program attendance • Math data (e.g., MAP test data, formative assessment, etc.) • Reading data • Social-emotional data (e.g., self-efficacy, relationships, etc.)
Outcomes & Impact	*Short term:* • Reduce summer slide in reading and math • Increase student engagement *Medium term:* • Close gaps in math and reading performance for high-need student subgroups • More students start on grade level • Improved social-emotional competencies *Long term:* • Reduce grade level retention • Increased academic performance on state standardized assessments

Appendix C

Interview Protocols

School Leader Interview Protocol

Consent for Qualitative Interviewing - Read aloud prior to interviewing

The purpose of this study is to learn about summer programming in Clay County Public Schools. CCPS has requested that we assist in developing greater understanding of school-based implementation of summer programming and assess the impact of programming on student readiness and performance. We do not anticipate any risks to you participating in this interview. There are no benefits to you directly; however, your responses could help CCPS know more about the functioning of summer programming. Your participation is voluntary.

Do you agree to participate in this interview?

Do you consent to this interview being recorded?

Demographic info:
Current role:
Years in current role:
Years associated with summer programming:
Other prior roles:
Total years in education:

Purposes

1. How would you define the goals of your particular summer programming? What contributed to that determination?
2. Do you think your summer programming has accomplished that goal or level of success? How so or why not?
3. Do you find the summer program to be worthwhile? Elaborate.

Practices

4. How are students referred to your summer program? Who makes these decisions?
5. How would you define overall attendance? Consistent/stable or inconsistent/here and there?
6. What are some barriers to students attending or participating in the program?
7. What is the length of your summer program?
8. What is the breakdown of each day in your summer program?

9. What is the staffing structure (administrative and teacher) of your summer program?
10. How much money do you have to operate your summer program?
11. What curricula, instructional resources, etc. do you provide teachers to facilitate learning?
12. How involved are you in the day-to-day operations of the summer program?

Products

13. What changes do you wish would be made to the programming?
14. Are there impacts of the summer programming that are not explicit in the goals/objectives?
15. What impacts (if any) would you choose to measure in an ideal summer programming experience?

Teacher Interview Protocol

Consent for Qualitative Interviewing - Read aloud prior to interviewing

The purpose of this study is to learn about summer programming in Clay County Public Schools. CCPS has requested that we assist in developing greater understanding of school-based implementation of summer programming and assess the impact of programming on student readiness and performance. We do not anticipate any risks to you participating in this interview. There are no benefits to you directly; however, your responses could help CCPS know more about the functioning of summer programming. Your participation is voluntary.

Do you agree to participate in this interview?

Do you consent to this interview being recorded?

Demographic info:
Current role:
Years in current role:
Years associated with summer programming:
Other prior roles:
Total years in education:

Purposes

1. Why did you decide to teach in the program?
2. What did you understand the goal(s) of summer programming to be?
3. What contributed to that determination?
4. Do you think summer programming accomplished that goal(s)? How so or why not?

Practices

5. Are you aware of the way students were assigned to, mandated to attend, or offered summer programming? Did you participate in any of these methods?
6. What requirements did students/families have to abide by to participate?
7. How would you define overall attendance? Consistent/stable or inconsistent/here and there?
8. Walk us through a typical day of the summer program from the teacher perspective.
9. Walk us through a typical day of the summer program from the student perspective.
10. How much power/control did you have over curriculum/content and day-to-day classroom operations?

11. What curriculum was used to facilitate the summer programming? Was the focus solely on ELA and math?

12. How were daily lessons/plans created? Were they geared towards a larger group or focused on individual students?

13. What feedback was provided to students and families throughout the program?

14. How engaged did you find students to be in the summer programming?

15. What role did parents play in students' participation in the summer program?

16. Were students required to do anything outside of the program's hours (e.g., homework, enrichment, projects, etc.)?

Products

17. Did it feel like a summer camp, summer school, or something in between?

18. What were the major benefits you saw from students attending summer programming - academic or otherwise?

19. Were there any pre- or post-assessments given surrounding the summer programming?

20. Were there any non-academic benefits you noticed or outcomes that were focused on?

21. What do you feel best exhibits the growth a student made during the program?

22. Did you notice the impact of summer programming in attending students in the next school year? If so, how and when?

23. If the summer programming were eliminated, what impact do you think this would have on students who otherwise would attend?

24. Did you find the summer program to be worthwhile? Elaborate.

District Leader Interview Protocol

Consent for Qualitative Interviewing - Read aloud prior to interviewing

The purpose of this study is to learn about summer programming in Clay County Public Schools. CCPS has requested that we assist in developing greater understanding of school-based implementation of summer programming and assess the impact of programming on student readiness and performance. We do not anticipate any risks to you participating in this interview. There are no benefits to you directly; however, your responses could help CCPS know more about the functioning of summer programming. Your participation is voluntary.

Do you agree to participate in this interview?

Do you consent to this interview being recorded?

Demographic info:
Current role:
Years in current role:
Years associated with summer programming:
Other prior roles:
Total years in education:

Context

1. Describe any relationship you have to summer programming and/or what elements of it feel most relevant to your own role.
    a. Are you involved in day-to-day operations?
    b. Are you involved in the planning experience?
    c. Do you consult on summer programming from the advocacy perspective of your role?

Purposes

2. What do you understand to be the goals of summer programming? What contributed to that understanding?
3. Are these goals communicated to the schools? If so, how and to whom?
4. Do you think summer programming has accomplished that/those goal(s)? How so or why not (to what level of success)?
5. Do you find the summer programming to be worthwhile? Elaborate (and offer insights regarding particular subpopulations if applicable).
6. Are there impacts of the summer programming that are not explicit in the goals/objectives?

7. What impacts (if any) would you choose to measure in an ideal summer programming experience?

Practices

8. Describe the role of the district/central office in planning and executing summer programming.
9. What curricula, instructional resources, etc. do you provide to schools to facilitate learning in summer programming?
10. What other capacity-building resources do you provide to schools to assist with summer programming?

Products

11. Within your central office experience, how do you see summer programming reviewed or evaluated?
12. How does the district determine what changes to the summer programming should occur and when? What drives this decision-making (e.g., stakeholder input, state law, data, etc.)?
13. Are you aware of any changes to summer programming that were slated to be made prior to COVID? Will these changes be made upon return to a normal setting?
14. Are there other changes that are currently being considered? Are you advocating for any changes in particular?
15. What aspects of summer programming should be owned by the district and what should be owned by individual schools, and why?
16. What additional considerations would you advise in regard to our research on summer programming?

Appendix D

Qualitative Analysis/Coding Example Matrix

Combined Perspectives				
Bin	*Interview Data*			*Other Evidence*
	Themes	**Key Quote(s)**	**Key Quote(s)**	**Documents**
Purposes	Summer Slide	"To provide some remediation and support and connection for kids who may have fallen...It's a small little bridge to keep them from sliding even further over the course of the summer." (DL) "The purpose is to prepare students for the next grade level...So, addressing essential standards they may have missed in the previous school year. Trying to build and fill foundational gaps." (SL)	"The academic focus and goals were the major purpose; we wanted to fill student gaps and jump start students in the next year." (T)	Leadership Team packets (LTP) MS Summer School Plans Learning Report family communication documents
	District vs. Schools	"We have literally been told, as principals, that the state provides us money for summer school, and so we must use it for summer school." (SL) "Summer school is a [district] level product that we have to administer at a local level." (SL) "Honestly, I'm not sure that goals have been set." (DL) "Goals were never clearly communicated from either school administration or district level really, and I don't believe anything formal or official is ever put out to this day." (DL) "Having a predefined goal was never something we discussed. There was no vision or mission associated; we never sat down as a group and discussed or figured this out ... I think this would have helped." (T) "The goals are to stay connected to our kids and to extend or supplement their learning from the previous year knowing that they need support going into the next year." (T) "Summarily, we wanted to keep brains academically engaged and at least maintain their level for the neediest of the needy while maybe addressing underlying skills that prevented academic growth..." (T)	"Our goal for all of our students at the middle school level is that they are ready for the rigor of regular coursework." (SL) "[Summer programming] provides them an opportunity to see that school is not such a bad place; [it] provides them an opportunity to have fun while learning and to learn in a different way." (SL) "We spend a lot of time caring for them and loving them and making sure they feed good and confident." (SL) "Just to connect with students - that's what I believed to be the primary goal. There were secondary goals, but that [goal] was so monumental that this is all it came to be." (T) "I think over that last three years the goals shifted, [the prior district leader] provided us an opportunity to go beyond the pre-test, post-test kind of deal, and more or less opened it up so we could focus on engagement more than necessarily achievement." (DL) "I think if we clarify our goals and objectives we wouldn't have as many pitfalls. I think right now it's so loose and up for interpretation [and] that is where a lot of our obstacles come from." (SL) "The goals are instructional, but the results are not." (SL)	Remediation Program budgets Leadership Team packets (LTP) MS Summer School plans family communication documents
	Influencing Factors	"To make sure we're all moving in a positive direction, and supporting that. It's a combination of leading and honestly supporting the leadership in others to move in a positive, forward direction." (DL) "My role was planning, district overseeing. Principals were given autonomy to provide the experience for their kids. We don't oversee the day-to-day activities." (DL) "Summer programming needs someone who is much more leading the charge so there is a go-to lead for the planning and implementation of it each year. While it's unlikely this could be a full-time position like a Director of Summer Programming, it needs to be part of somebody's position." (DL) "[One of the district leaders] would say: 'Uh, maybe we need to look at this differently.' And then he and I would have a meeting, and then we'd bring the principals in and we'll talk about it usually." (SL) "I've never seen the decision-making done in a systematic, data-driven way." (DL)	"...we have to do what the division gives us the opportunity to do. Now, how we go about administering that might be a little different at each school, but the constraints are the same for all of us." (SL) "I really wish we had more money to have more students." (SL) "I wish that we had a clear vision and mission with our summer program...I also wish that we had a shared - there's budget concerns, but there's also the teaching pool..." (SL) "For summer learning I would like to see a family engagement piece...inviting parents to do a session to come and hear about what summer program is going to look like, what it's going to offer their students, and more communication on where we're headed on the front end." (SL) "It's about building relationships with families and our community and reworking the stigma associated with summer school...make sure they understand it's not just coming in and doing multiplication facts. They're going to come in and actually produce something." (SL)	Remediation Program budgets Leadership Team packets (LTP) MS Summer School plans

Appendix E

Loss Mitigation Analysis Tables

STAR Assessment
Percentage of Students Exhibiting Loss (Negative Growth) in their Scores

All Students

	2016	2017	2018	2019
% Negative (all)	46.88%	48.49%	47.62%	43.28%
% Negative (Attendees)	42.60%	52.86%	56.86%	40.70%
% Negative (Non-Attendees)	47.22%	48.17%	47.32%	43.49%
p-value	0.092*	0.095*	0.029**	0.308

*significant at p<0.10 **significant at p<0.05

Students of Color

	2016	2017	2018	2019
% Negative (all)	47.09%	48.85%	47.65%	40.71%
% Negative (Attendees)	42.96%	50.33%	57.97%	37.50%
% Negative (Non-Attendees)	47.52%	48.70%	47.18%	41.00%
p-value	0.150	0.352	0.040**	0.305

*significant at p<0.10 **significant at p<0.05

Black and Hispanic Students

	2016	2017	2018	2019
% Negative (all)	46.85%	48.80%	48.50%	41.28%
% Negative (Attendees)	42.15%	51.16%	60.66%	35.42%
% Negative (Non-Attendees)	47.40%	48.54%	47.85%	41.83%
p-value	0.137	0.286	0.026**	0.195

*significant at p<0.10 **significant at p<0.05

Black / African-American Students

	2016	2017	2018	2019
% Negative (all)	45.91%	46.49%	46.08%	40.39%
% Negative (Attendees)	39.06%	52.63%	57.14%	36.00%
% Negative (Non-Attendees)	46.73%	45.66%	45.39%	40.87%
p-value	0.123	0.873	0.088*	0.320

*significant at p<0.10 **significant at p<0.05

Hispanic Students

	2016	2017	2018	2019
% Negative (all)	47.86%	51.08%	50.91%	42.02%
% Negative (Attendees)	45.61%	49.06%	65.38%	34.78%
% Negative (Non-Attendees)	48.11%	51.26%	50.26%	42.61%
p-value	0.361	0.620	0.066*	0.233

*significant at p<0.10 **significant at p<0.05

Male Students

	2016	2017	2018	2019
% Negative (all)	47.83%	50.42%	49.26%	43.74%
% Negative (Attendees)	45.45%	53.10%	61.54%	42.00%
% Negative (Non-Attendees)	48.05%	50.21%	48.76%	43.17%
p-value	0.284	0.277	0.022**	0.436

*significant at p<0.10 **significant at p<0.05

Female Students

	2016	2017	2018	2019
% Negative (all)	45.88%	46.49%	45.90%	43.50%
% Negative (Attendees)	38.46%	52.58%	48.65%	38.89%
% Negative (Non-Attendees)	46.35%	46.08%	45.84%	43.84%
p-value	0.072*	0.107	0.367	0.282

*significant at p<0.10 **significant at p<0.05

Students Qualifying for Extra Time (prior to summer programming)

	2017	2018	2019
% Negative (all)	54.40%	51.09%	46.80%
% Negative (Attendees)	53.19%	57.50%	59.38%
% Negative (Non-Attendees)	54.55%	50.80%	45.51%
p-value	0.430	0.204	0.068*

*significant at p<0.10 **significant at p<0.05

MAP Assessment
Percentage of Students Exhibiting Loss (Negative Growth) in their Scores

All Students

	2018	2019
% Negative (all)	48.93%	47.05%
% Negative (Attendees)	40.70%	43.17%
% Negative (Non-Attendees)	50.18%	47.34%
p-value	0.051*	0.138

*significant at p<0.10

Students of Color

	2018	2019
% Negative (all)	49.53%	46.60%
% Negative (Attendees)	45.45%	42.75%
% Negative (Non-Attendees)	50.28%	46.96%
p-value	0.236	0.178

*significant at p<0.10

Black and Hispanic Students

	2018	2019
% Negative (all)	50.00%	47.17%
% Negative (Attendees)	44.07%	42.11%
% Negative (Non-Attendees)	51.22%	47.66%
p-value	0.159	0.129

*significant at p<0.10

Black / African-American Students

	2018	2019
% Negative (all)	49.72%	48.09%
% Negative (Attendees)	48.28%	39.68%
% Negative (Non-Attendees)	50.00%	49.03%
p-value	0.433	0.080*

*significant at p<0.10

Hispanic Students

	2018	2019
% Negative (all)	50.31%	46.26%
% Negative (Attendees)	40.00%	45.10%
% Negative (Non-Attendees)	52.63%	46.36%
p-value	0.107	0.431

*significant at p<0.10

Male Students

	2018	2019
% Negative (all)	48.67%	47.57%
% Negative (Attendees)	41.82%	41.35%
% Negative (Non-Attendees)	50.00%	48.08%
p-value	0.134	0.093*

*significant at p<0.10

Female Students

	2018	2019
% Negative (all)	49.22%	46.52%
% Negative (Attendees)	38.71%	45.57%
% Negative (Non-Attendees)	50.35%	46.58%
p-value	0.110	0.431

*significant at p<0.10

Appendix F

Attendance Numbers and Racial Demographics of Attendees by Year for 7th and 8th Grade Remediation-Based Summer Programming

Year	Summer 2016		Summer 2017		Summer 2018		Summer 2019	
School / Grade	Rising 7th	Rising 8th	Rising 7th	Rising 8th	Rising 7th	Rising 8th	Rising 7th	Rising 8th
Denim MS	15	14	18	10	25	13	14	7
Gray MS	9	15	12	23	14	22	14	13
Hazel MS	20	26	20	15	15	8	21	12
Maroon MS	46	41	36	58	62	11	59	66
Purple MS	4	7	12	9	13	17	7	18
Sapphire MS	13	6	5	4	6	5	7	2
Turquoise MS	7	11	3	8	10	4	5	3
White MS	10	10	2	10	8	3	0	0
Year Totals	**2016**	**254**	**2017**	**245**	**2018**	**236**	**2019**	**248**
Total MS Enrollment		7656		7642		7913		8170
Percentage Attendance		3.32%		3.21%		2.98%		3.04%
Racial Demographics	**Race**	**% Attendees**	**Race**	**% Attendees**	**Race**	**% Attendees**	**Race**	**% Attendees**
of attendees	AIAN	0.39%	AIAN	0.79%	AIAN	0.39%	AIAN	0.39%
	Asian	2.36%	Asian	2.36%	Asian	3.15%	Asian	3.54%
	B/Af-Am	29.92%	B/Af-Am	33.86%	B/Af-Am	35.43%	B/Af-Am	34.65%
	Hispanic	24.80%	Hispanic	24.41%	Hispanic	25.59%	Hispanic	27.17%
	NHPI	0.00%	NHPI	0.00%	NHPI	0.39%	NHPI	0.00%
	2+	6.30%	2+	5.91%	2+	5.51%	2+	5.91%
	White	36.22%	White	29.13%	White	27.56%	White	27.17%

Appendix G

Assessment Data Availability and Results by School and Assessment Type

STAR Assessment

2016						
		Non-Attendees		Attendees		
School	Total Observations	N	Growth Score Mean	N	Growth Score Mean	P-Value
Denim	331	308	-10.91	23	28.65	0.107
Gray	494	472	11.18	22	24.36	0.253
Hazel	529	484	18.62	45	11.38	0.361
Maroon	456	378	-1.77	**78**	31.41	**0.025***
Purple	202	191	10.48	11	9.36	0.491
Sapphire	452	437	-3.86	15	5.73	0.370
Turquoise	49	37	-10.08	12	27.17	0.172
White	534	517	4.78	17	-5.82	0.343

2017						
		Non-Attendees		Attendees		
School	Total Observations	N	Growth Score Mean	N	Growth Score Mean	P-Value
Denim	301	274	19.16	27	-26.26	0.062
Gray	514	483	13.15	31	-8.87	0.157
Hazel	553	521	18.13	32	16.03	0.462
Maroon	488	405	-26.27	83	-49.48	0.107
Purple	343	326	-8.58	17	29.53	0.178
Sapphire	17	16	8.19	1	-7.00	.
Turquoise	296	289	5.49	7	46.86	0.134
White	563	551	11.21	12	52.17	0.244

2018						
		Non-Attendees		Attendees		
School	Total Observations	N	Growth Score Mean	N	Growth Score Mean	P-Value
Denim	.	.	.	.	.	.
Gray	518	492	11.59	26	51.46	0.072
Hazel	584	560	3.17	24	-13.71	0.250
Maroon	106	98	-7.33	8	-22.75	0.377
Purple	436	423	3.70	**13**	-36.46	**0.040***
Sapphire	478	469	-17.18	9	-20.33	0.464
Turquoise	557	545	9.90	12	-16.33	0.201
White	515	505	3.29	10	-4.90	0.337

2019						
		Non-Attendees		Attendees		
School	Total Observations	N	Growth Score Mean	N	Growth Score Mean	P-Value
Denim	.	.	.	.	.	.
Gray	128	119	-0.97	9	-11.33	0.576
Hazel	549	521	31.96	28	33.68	0.476
Maroon	184	139	0.24	**45**	38.80	**0.041***
Purple	5	5	35.80	.	.	.
Sapphire	146	142	16.67	4	33.50	0.445
Turquoise	1	1	184.00	.	.	.
White	110	110	12.52	.	.	.

MAP Assessment

2018						
		Non-Attendees		Attendees		
School	Total Observations	N	Growth Score Mean	N	Growth Score Mean	P-Value
Denim	224	200	-0.71	24	1.38	0.098
Gray	9	9	1.33	.	.	.
Hazel	12	11	1.00	1	-2.00	.
Maroon	367	312	-1.11	55	-0.76	0.393
Purple	15	9	-0.89	6	3.33	0.154
Sapphire	14	14	-1.21	.	.	.
Turquoise	8	8	2.13	.	.	.
White	7	7	-1.57	.	.	.

2019						
		Non-Attendees		Attendees		
School	Total Observations	N	Growth Score Mean	N	Growth Score Mean	P-Value
Denim	223	204	1.63	19	-0.53	0.128
Gray	371	352	0.72	19	2.16	0.167
Hazel	381	354	-0.45	27	-0.78	0.405
Maroon	367	263	0.77	104	1.47	0.254
Purple	329	329	-0.70	.	.	.
Sapphire	249	242	-0.97	7	-2.00	0.393
Turquoise	349	342	-1.24	7	-0.29	0.371
White	379	379	0.16	.	.	.