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EXTENDED TIME: NO LONGER OPTIONAL

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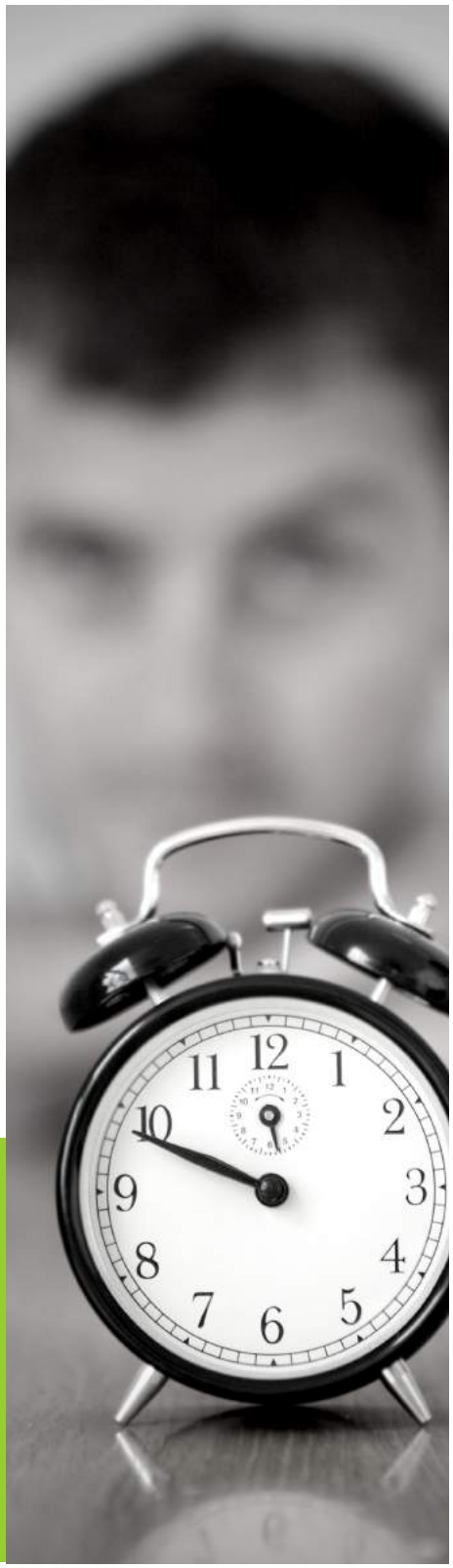
INTRODUCTION

Everyone wants to close the achievement gap. There is a clear moral imperative to do so: it is profoundly unfair that students of color and ones from low-socioeconomic status (SES) are disadvantaged in our education system, compared to their more affluent, White peers. This paper examines the achievement gap and highlights extended time as a solution that can help close the achievement gap across all groups of students. Extended time refers to a strategy to increase the amount of time students spend learning, either through lengthening the school day or introducing summer programming. By increasing the amount of time students spend learning, we can begin to mitigate summer learning loss and create a more equitable education system. Following the presentation of research and arguments for the adoption of extended time policies in schools, we will examine two case studies on the implementation of extended time in schools to identify obstacles and highlight best practices.



> By increasing the amount of time students spend learning, we can begin to mitigate summer learning loss and create a more equitable education system.

RESEARCH ON EXTENDED TIME

Education should be the great equalizer: an engine for economic mobility and an essential tool for developing moral, ethical frameworks for millions of Americans. Furthermore, it goes without saying that there are a variety of economic benefits to closing the achievement gap. A 2009 McKinsey & Company report found that if the achievement gap between different racial and ethnic groups was closed by 1998, our GDP would have grown by up to an additional 525 million dollars in the subsequent ten years. Similarly, closing the achievement gap between students from low-SES backgrounds and those from high-SES backgrounds would generate up to an additional 670 million dollars over the same time period (Auguste et. al 3).

In 2013, the Council on Foreign Relations went so far as to argue that the primary driver of our public education system's weakening global competitiveness is the racial and economic achievement gap between students (Alden and Strauss). The aforementioned McKinsey study found that if the United States' education system were to perform at the same level as Finland or South Korea, two global leaders in education, our GDP could be 2.3 trillion dollars higher (Auguste et. al 2). These increases to GDP barely scratch the surface of the improvements that a revamped education system would spread throughout American society. Even if some people are not motivated by the moral issues associated with the racial and socioeconomic disparities in education outcomes, perhaps the economic benefits to society may motivate them to do something about it.

Regardless of the indicator, the evidence is clear that our educational success is stratified along lines of race and class. The National Assessment of Education Progress has shown that there is a 26-point gap between Black and White students on their eighth-grade math assessment (Bohrnstedt 12). African Americans also score a full standard deviation lower than White students on the SATs (Garibaldi 375). The education gap is particularly pronounced on the California Assessment of Student Performance and Progress. According to the California Assessment of Student Performance and Progress, third-grade African-American students were sixty percent less likely than White ones to meet or exceed the state's standards for math proficiency. By the eleventh-grade, this gap increases by nearly ten points. This highlights one of the most significant concerns of the achievement gap; it widens with time.

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It is important to note that this gap extends beyond just test scores: nationally, African-Americans are twelve percentage points less likely to graduate high school than their White counterparts. The Hispanic graduation rate is similarly depressed, at nine points below the White one (Common Core of Data). And, while the difference between graduation rates has shrunk slightly in recent years, there is still much work to be done. College graduation rates and career earnings are both tied to the achievement gap. Reducing the socioeconomic gap in test scores is not just about improving education policies; it will have far-reaching implications for the remainder of a student's life.

We also know that the learning gap exists long before students enter kindergarten. Students from low-SES backgrounds are exposed to as many as 32 million fewer words before entering school. This negatively impacts their cognitive development and causes them to lag behind their peers. This gap does not only exist in terms of cognitive skills. It also extends into other domains including social skills, executive reasoning and emotional coping (Shenk 141).

Researchers have also attempted to tabulate the number of hours of instruction or other enriching experiences that students from a poorer background miss out on throughout their time in primary and secondary school. The After-School Corporation estimates that students from the bottom quintile receive "220 fewer hours being read to by family members; 1,395 hours not spent in pre-kindergarten, which poor children access at much lower rates; 3,060 fewer hours in after-school and extracurricular activities in elementary school; 1,080 fewer hours in camp and other summer programs; and 245 fewer hours visiting zoos, museums and the like" (Fernald et al. 235) over thirteen years for a total of 6,000 hours. If we assume that the average school day is seven hours long and the average school year is 180 days long, then these students miss out on about 850 days of school or 4.75 grades total. When we look at this issue from that perspective, it is no wonder that the achievement gap is so persistent.

RESEARCH ON EXTENDED TIME

> Differences in how young people spend their time outside of school pose one of the biggest challenges – and most promising opportunities – for California's educational system. Families who can afford to purchase classes, sports, and camps for their children, do so as a matter of course. They know that exposure, skills, experiences are essential for their children's development and future. In fact over the last forty years, upper-income parents have increased the amount they have spent on their children's enrichment activities like tutoring and extracurriculars, by ten times the amount their lower-income peers have been able to invest (Brackenridge et. al 3).
>
> This unequal access has resulted in a wider opportunity gap, with immediate consequences for academic achievement and long-term consequences for success in work and life.

That is not to say that our educational system is not already fighting the achievement gap. In the Money Myth, Norton Grubb showed how schools do in fact begin to close the achievement gap at the entry into kindergarten. However, summer learning loss begins to take effect right after kindergarten ends. When students transition into middle school, the gap increases, becoming permanent once a student enters high school (Grubb 160). In summary, students from more affluent and educated families lose less knowledge during the summer than poorer students whose knowledge loss increases incrementally every year for the first nine of their educational career. Schools do make a difference but not necessarily enough to counter the larger systemic economic and racial obstacles that so many families and students need to overcome. Richard Rothstein delineates how variables outside of school severely impact student academic progress when he states, "Social and economic disadvantage – not only poverty, but a host of associated conditions – depresses student performance, and concentrating students with these disadvantages in racially and economically homogeneous schools depresses it further" (Grubb 66).

RESEARCH ON EXTENDED TIME

The early achievement gap is particularly problematic because of how early success in mathematics courses is such a strong predictor of success in later ones. The Silicon Valley Education Foundation synthesized research by Gingsburg and Duncan on the importance of early math in a paper titled Strengthening Early Math (Perry). A 2014 report, Math Matters: Children's Mathematical Journeys Start Early, synthesized research by Duncan and Romano to demonstrate that success in mathematics by the end of third-grade was an indicator of future success in school. Third-grade math results strongly predicted eighth-grade math results which in turn predicted future high school success (Schoenfeld and Stipek).

All of this comes, of course, with caveats. The achievement gap is driven by a variety of factors. At the local institutional level, differences in school and teacher quality and local funding for education are powerful underlying dynamics that influence the size of the gap. Furthermore, per the National Education Association, on a family level, generational wealth (or lack thereof), access to quality healthcare and the degree of parental education can also affect the achievement gap. These factors only scratch the surface of the complexities of our unequal education system. This paper will not make an attempt to enumerate and analyze each individual factor that contributes to the achievement gap. Rather, it will focus on a few key ones for which there are available and comprehensive solutions.

Another key caveat is that a significant portion of the achievement gap is also tied to the socioeconomic status of different racial and ethnic groups. However, due to the United States' history of institutional racism, it is impossible to disentangle the two. Additionally, school districts with larger portions of students of color have been historically, and often still are, denied adequate resources. Thus, while it is important to consider how a different approach may be necessary, and indeed valuable, to study the achievement gap between the rich and poor, this remains outside the scope of this paper. The issue of addressing race and SES as a critical and missing factor, in the discussion on the achievement gap, has been addressed eloquently elsewhere (Singleton).

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The last caveat to consider is that the achievement gap differs across racial groups. Broadly speaking, Asian students often score somewhat higher than Whites. And Latino students tend to perform slightly better than African-Americans but still significantly below White students. This is important to consider as Latinos continue to make up an increasing portion of the United States' population. Most likely, closing the achievement gap for Latinos will require a somewhat different set of solutions than for African-Americans. There is still significant debate on the underlying causes of the Black-Hispanic gap. However, many researchers agree that the language spoken at home, whether the student is learning English as a second language, neighborhood characteristics, country of origin and differential generational wealth are all variables (Schneider et. al 185). In addition, African-Americans are particularly disadvantaged due to the legacies of slavery, Jim Crow, and segregation that still singularly loom over our education system. Furthermore, neither group is monolithic, and the manner in which families come to the United States can have powerful impacts on their political and educational development for generations to come. As of now, many schools are ill-equipped to target specific needs within the Latino community. Bolstering English Language Development programs is an important first step, but there is still much work to be done. That being said, the case for extended time presented in this paper has proven results regardless of the racial-ethnic-socioeconomic breakdown of a classroom and school district.

With this in mind, policy-makers and educators must focus on boosting both college attendance and graduation. In an increasingly automated and globalized world, a college education has become increasingly important to promote upward economic mobility. A high-school diploma does not cut it anymore, and our educational system must instead move towards pushing students further through the educational pipeline. In California, a key mechanism for preparing students for a college education and beyond are "A-G" courses, a set of fifteen classes that students must complete to simply be eligible to apply to the California State University system. These courses are designed to equip students with the necessary analytic skills to successfully complete college-level coursework. One of the major requirements is for a student to complete three years of math through Algebra II or Integrated Math Course I. Approximately forty percent of high school students who complete Algebra II go on to graduate from college. The achievement gap in A-G completion rates predicts the college graduation achievement gap.

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Unfortunately, many students never take critical math classes; a misplacement that frequently cuts along racial lines, even when controlling for test scores (Oakes 11). This results in students of color being placed in such classes at a lower rate despite test scores that might indicate they are prepared to handle the curriculum. This is consistent with the American Educational Research Association report, which when discussing a 2015 Michigan State University study, claimed that research "confirmed not only that low-income students are more likely to be exposed to weaker math content in schools, but also that a substantial share of the gap in math performance between economically advantaged and disadvantaged students is related to those curricular inequalities" (Schmidt 381). The presence of math misplacement was also demonstrated in the Pathways Report: Dead Ends and Wrong Turns on the Path through Algebra (Waterman 11).

The SB 359 legislation in California's legislature changed the rules surrounding placement in high school level math courses. Students' admittance into the courses would result from objective assessments beyond teacher recommendations. While removing a significant portion of subjectivity in course selection is an important first step towards closing the achievement gap, there are still other improvements to be made. In a similar vein, there are a variety of other policy interventions that seek to remove roadblocks in education. For example, the chancellor of California's Community College system recently suggested that intermediate algebra be eliminated as a requirement for community college students seeking an associate of arts degree, even going so far as to declare it a "civil rights issue" (Lattimore and Depenbrock).

It may be true that algebra is a stumbling block, however, simply removing the problem may only be part of the solution. The reality is that an English major has little use for algebra. One can read Shakespeare without solving the quadratic equation. However, in the same way that we want engineers to have a well-rounded education by reading and studying great literature, so the question follows: how much math, if any, does a student in a non-mathematical field need to be considered educationally rounded? Furthermore, students could be excluding themselves from lucrative STEM (Science, Technology, Engineering, Math) fields by avoiding challenging math classes. These students who turn away from mathematics early on may be largely students of color and from a low-SES background. This will limit a student's options for entering the STEM fields.

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Furthermore, these math courses are among the most important to prepare a student for "the real world" and lucrative opportunities which have been systematically denied to students from low-SES backgrounds. According to William Schmidt, the author of the aforementioned 2015 Michigan State study on curricular inequality:

> Our findings support previous research by showing that affluent students are consistently provided with greater opportunity to learn more rigorous content, and that students who are exposed to higher-level math have a better ability to apply it to address real-world situations of contemporary adult life, such as calculating interest, discounts and estimating the required amount of carpeting for a room (385).

Building numeracy skills through math courses is extremely important for both financial literacy and day-to-day lifestyle improvements. Thus, while these creative policy interventions may be effective around the margins, they risk not addressing the underlying problems with the achievement gap. There is a fine distinction between removing roadblocks and lowering expectations for disadvantaged students.

In conclusion, while removing mathematical roadblocks might be one solution to improving college success, a preferable alternative would be to better prepare students to handle the rigors of mathematics. This is especially valuable given the importance of the subject in STEM fields, which have risen in importance in the 21st century.

POLICIES ON EXTENDED TIME

Now that we have established the obstacles to improving educational equity, we can delve into what would make policy truly more effective. This all begs the question: what is the most effective way to truly combat the achievement gap? Any effective policy intervention would get to the heart of the achievement gap. A key source of the achievement gap that this policy paper focuses on is the effect of learning loss during the summer. According to one 2007 Johns Hopkins study, nearly fifty percent of the achievement gap is the result of knowledge loss during the summer (Alexander et. al 19). Once students enter school, they tend to learn at the same rate, but students from lower-SES lose much more knowledge each summer between classes.

For example, students from a low-SES who do not participate in educational programs during the summer months can experience "summer learning loss" – their achievement test scores decline between June and September. Researchers have determined that this loss is often procedural rather than conceptual (Valentine et al.). For instance, a student can understand conceptually that seventy-seven cannot be evenly divided by five. However, finding the answer, twenty-five with a remainder of two, through long-division may be lost. This loss is much more pronounced in students who come from a low-SES than those who come from a higher one, for a variety of reasons. One of the main reasons is that these students from low-SES have fewer opportunities to use math during the summer.

Hence finding opportunities for students to do math over the summer is imperative. But, just doing math is not enough. Kathleen Lynch and James Kim from Harvard's Graduate School of Education recently found that completing math worksheets over the summer had a negligible effect on hindering knowledge loss. Thus, developing and implementing comprehensive community- and family-driven summer learning opportunities is essential if we want to decrease knowledge loss during the summer.

POLICIES ON EXTENDED TIME

Just like reading to children before bed has lasting benefits to cognitive development, reading math-infused bedtime stories effectively combats summer math loss (Lynch and Kim 37). Additionally, asking children to try and incorporate arithmetic into their everyday lives during the summer has shown to somewhat reduce learning loss. It should be noted that these interventions are intended for elementary school children, and there is a paucity of research on family-based interventions for teenage students. This is an important area for future empirical investigation. Furthermore, the families with the highest ability to intervene in these ways are the least likely to need them. Income is positively correlated with time spent with children, and families in which both parents work are less likely to have the time to read to their kids or practice math during the summer and are more likely to lack the resources to place them in for-profit academic summer programs. Therefore, further study of how to transpose these programs from discrete family actions to community initiatives is an essential component in combating the learning gap.

With that being said, there are many institutional methods to combat the learning gap. Most notably, it can be reduced dramatically through extended time in schools and limiting learning loss during the summer. Logically, if students stay in school and continue to learn new content during the summer, learning loss will be non-existent. Therefore, extended time is a premier tool to improve the equity of our educational system.

Extended time can take place in a variety of settings and forms. Broadly, per a 2013 report by the Associated Press, extended time can be broken into the following three categories:

> (1) stretching the traditional 180 days of school across the whole calendar year by lengthening spring and winter breaks and shortening the one in the summer; (2) adding 20 to 30 actual days of instruction to the 180-day calendar; and (3) dividing students and staff into groups, typically four, and rotating three through at a time, with one on vacation, throughout the calendar year (Associated Press).

There are benefits to all three approaches; the first has the most obvious effect of directly reducing summer learning loss, the second can advance gains in the classroom, and the last has the capacity to strongly reduce class sizes. Further research is required on methods one and three; however, method two has strong research to support its broader implementation.

POLICIES ON EXTENDED TIME

A 2012 study by Will Dobbie and Roland Fryer found that the most powerful predictors of academic success and reducing the achievement gap were increasing time spent in school by three hundred hours alongside high quality, individualized tutoring; consistent feedback from teachers; a data-centric approach to teaching; and high expectations within the classroom (35). Another examination of the same data using a different methodological perspective by Caroline Hoxby found similar results: extending time in schools is strongly correlated with enhanced test scores (37). Lastly, according to a meta-analysis by USC's Erika Patall, extended time is particularly effective for "at-risk" students when the added time is carefully used by the district (39). There is clear evidence that extended time is an effective tool for reducing the achievement gap. However, it is not a blunt instrument. It needs to be carefully calibrated for each school district that implements it.

Following the publication of their study in 2012, Dobbie and Fryer collaborated closely with the Houston School District to implement the findings of their research. The results were stunning. Their program generated a large enough improvement in math performance to prevent one of the four students in a tutoring group from dropping out of high school. Michael Weinstein, an economics analyst for The New York Times, summary of the findings bears repeating:

> A student with a high school diploma earns at least $120,000 more over a lifetime than a high school dropout and lives an average two years longer in good health, worth another $100,000. Very conservatively, that's a $200,000 benefit to society. Do a little seventh-grade arithmetic, and you're talking about a benefit to cost ratio of about 10 to 1... This is a monstrously important, powerful intervention (Neufeld, 6,000-Hour Deficit).

There are also a variety of ancillary benefits to this approach to extended time. Extended time can be used as an opportunity to provide more meals to students who are on free lunch and can allow parents greater flexibility in their work schedules. This can also provide students with greater mentorship opportunities within the school and allow districts to bring back art and music programs that were cut due to timing constraints. This raises an important point: extended time does not solely have to be dedicated to more time on academic subjects. With that in mind, we now examine two case studies on how extended time can be successfully implemented in schools and identify obstacles to implementation.

MASSACHUSETTS: A SUCCESS

As is the case in many aspects of education policy, Massachusetts is a leader in extended time. Each year, the state allocates fourteen million dollars (or about two dollars per Massachusetts resident) to a pool dedicated to schools which want to expand time spent in school. Interestingly, the state takes a maximalist approach to extended time, allowing districts to use the money for the purposes of:

> (1) Providing more instructional time in math, literacy, science and other core subjects to enable students to meet state standards; (2) Integrating enrichment and applied learning opportunities into the school day that complement and align with state standards and twenty-first century skills; and (3) Scheduling and organizing more time for planning, analysis, lesson design and professional development for teachers as well as, in some cases, professionals from their partnering community-based organizations (Massachusetts Department of Elementary and Secondary Education).

This sort of flexibility in funding usage is admirable and certainly has boosted the initiative's success. To understand better the effectiveness of this policy, we will take a closer look at one school in Massachusetts: Guilmette Elementary in Lawrence.

In 2012, Guilmette Elementary lagged behind the state literacy average by twenty points. The school district was placed in receivership: a process in which professionals outside a chronically underperforming school district are brought in to improve the school's prospects. The school's receiver crafted a new set of policies which boosted autonomy among principals, giving them increased control over matters like budgeting and scheduling. However, teachers were given a guarantee that their union membership would remain unimpeded. These administrative changes were instrumental in supporting the school's most drastic change: adding an additional two to three-hundred hours of class time each year to each school in the district. Teachers and administrators were given significant leverage in choosing how much additional time should be added and how it should be spent. Stakeholders were given a year to design their new programs. Additionally, concordant with Massachusetts law, public hearings were held to disseminate information about the new programs and to solicit community feedback (Davis).

MASSACHUSETTS: A SUCCESS

Ultimately, the school added seven hours a week for a total of 260 hours per year; students now attended school from 7:30 a.m. to 3:35 p.m. In addition to lengthening the time spent in each class period, more periods were added. As previously mentioned, it's not just a matter of adding time to the school day, we should also be deeply concerned with how schools use the time added. Consequently, the most important of these new periods was a "learning lab" period where underperforming students received tutoring within a small group. High-performing students were provided the opportunity to join co-curricular clubs or learn advanced math and reading skills. Both this program and much of the school's other innovations fall in line with Fryer's research on the characteristics of an effective school (Davis).

Perhaps Guilmette Elementary's most innovative decision was their choice to use each Friday as an opportunity to host recreational activities with the local Boys and Girls Club. Students would engage in activities not typically offered during school, such as karate or swimming, while teachers would use the time for professional development. This was especially valuable for teachers since Guilmette had few teachers who were rated "Highly Qualified" by the Massachusetts government (Guilmette Elementary Academic Report Card). Sharing best practices and opening opportunities for collaboration was an essential part of the program's success. Teachers also used the time to collectively analyze, through testing data, their students.

While there are other schools which have similar programs, there are few which incorporate them into the day in such an integral way. For instance, the Croton Harmon Union Free School District in New York has an optional thirty-five minute "helping period" after school, which allows for students to receive extra tutoring after class,. This can pose a problem for students who need the most help because they may become frustrated with their lack of success in class and choose to just go home. The Guilmette Elementary learning lab should also be compared and contrasted with a study hall where students are frequently given free range to focus on their own studies or just spend time with friends. Particularly when students are young, there is no true substitute for intensive small-group tutoring with a teacher (Sizer 157).

MASSACHUSETTS: A SUCCESS

Promoting new teaching skills and data usage were no doubt essential parts of the school's turn around. Once again, this also reveals the importance of using Fryer's seminal study as a guide to improve school districts. Extending learning time and professional development based upon data is key for turning around a school district. As schools implement extended time, they should maintain an eye towards programs which also strengthen these two practices. The school also shifted its payment system for teachers from one which placed less of an emphasis on how long teachers had worked for the district and instead awarded teachers pay based on the success of their students. While many educators have voiced skepticism about whether or not similar payment structures effectively reward good teachers or are just a ploy to cut costs, in this case, the district's particular payment structure seems to have been effective: the average teacher received a 3,000 dollar raise. Teachers received an additional 2,000 to 4,000 dollar raise based on the number of additional hours they taught. The program ended up costing the district 3.8 million dollars which represents 2.4 percent of its budget (Neufeld, A Longer School Day).

The results were staggering. By the end of 2014, students at Guilmette Elementary were performing better than those at the average Massachusetts elementary school with over a twenty percent increase in mathematical proficiency. The gains in reading were less pronounced, but still remarkable; the gap between the average Massachusetts elementary school and Guilmette was cut by a third. In 2017, three years after implementation, the school performed on par with the rest of Massachusetts in both reading and writing. Additionally, thanks to widespread adoption of Guilmette Elementary's education policies, the school overall performs as well as the rest of the state.

The results only become more impressive when you consider the school's demographics. Guilmette has over twice as many economically disadvantaged students as the average Massachusetts elementary school (74 in contrast to 32.1 percent) and nearly three times the number of students who are English language learners (32.5 in contrast to 11.8 percent). Furthermore, the student body is 93.6 percent Hispanic. There are few schools nationwide that can claim such a level of success in the face of so much adversity (Massachusetts Department of Elementary and Secondary Education). While increasing opportunities for professional development and small-group tutoring were essential to the school's success, both of these programs were hedged by extending time in schools.

CHICAGO: AN OPPORTUNITY

Chicago provides a good case study in what potholes municipalities must avoid in order to effectively implement extended-time programs. In 2012, Rahm Emanuel, Chicago's mayor, sought to expand time in elementary schools by ninety minutes and time in middle and high schools by thirty minutes. However, much of groundwork to implement this policy was left incomplete (Neufeld, How Teachers Deal).

Teachers were not compensated for additional time spent in the classroom; effectively they were asked to increase their workload by twenty percent without a corresponding pay increase. This was the match that lit a seven day teachers' strike. At the strike's conclusion, the city of Chicago agreed to pay teachers an additional 17.4 percent over four years. Unfortunately, many of the teachers who were guaranteed raises ended up losing their jobs due to a massive budgetary shortfall in the subsequent years. Changes to budgeting formulas compounded the issue by incentivizing principals to hire newer, less experienced teachers rather than older ones. Furthermore, the amount of money schools had at their disposal was slashed, resulting in an insufficient number of new lower-paid teachers being brought on to offset higher-paid, more senior teachers leaving. Chicago finished its experiment with 6.5 percent fewer teachers than with which it had started with. Fifteen percent of all support positions such as secretaries, librarians and teaching aids were also cut (Neufeld, How Teachers Deal).

The city also failed to provide guidance on how to use the extended time or get community buy-in. Many teachers were resentful of the program and school districts rarely had the ability to effectively utilize time added. One high school just added a study hall. Some schools just added five minutes to each class period which had a negligible effect on teacher and student performance. In crime-heavy districts, parents were concerned that their children would be unable to get home before dark. Lastly, there are anecdotal reports that students started doing fewer extracurricular activities because they had to spend more time in school (Neufeld, How Teachers Deal). There has been little retrospective research on the effects of extended time in Chicago public schools, but it is an important cautionary tale. Extended time without proper financial or community support is a recipe for disaster.

CHICAGO: AN OPPORTUNITY

A number of other reforms such as enhanced and more time-consuming teacher evaluations and more stringent standardized tests were implemented concurrently to lengthening the school day. In some ways, these reforms choked each other out because none of them had the full weight of the city behind them. Policy reform can be a rocky process and, while it may be tempting to rapidly adopt policies designed to improve student performance, overzealousness can backfire.

Shael Polakow-Suransky, the then chief academic officer of New York City schools, summarized activist critiques of the program in an interview with The Atlantic:

> You don't get this done just by extending the time for the kids... The teachers need time to plan.... If you have bad instruction happening in the first six hours of the day, you're not going to get great instruction in the next few hours. It needs to be connected to a broader set of interventions and reforms (Neufeld, How Teachers Deal).

This is in line with one of the most prevalent critiques of extended time: that American students already spend more time in school than their counterparts in both high-performing countries such as Sweden, Finland, and Japan and in countries which are quickly catching up to our academic performance, such as India and China. In essence, extended time cannot be used as a blunt instrument; simply having students attend school may be broadly helpful, but precise investigation of how time is used is essential if we want to improve student performance on tests (Alexander et al. 25).

That is the second major take-away from Chicago's use of extended time. Increasing time spent in school will not magically fix the achievement gap. It needs to be backed by other serious reforms. A Chicago Parents for Quality Education report on extended time found that students who attended Chicago schools which already had extended time prior to the policy's implementation had the same test scores as schools with a 6.5-hour school day (5). These findings show that schools need to stay in session longer and provide new programming with that extended-time.

CHICAGO: AN OPPORTUNITY

This is not to say that the entire program was a wash. Test scores improved marginally with 1.8 percent more students meeting or exceeding grade level standards in the subsequent year (Ahmed-Ullah). It is difficult to draw too many hard conclusions from the effectiveness of Chicago's experiment because of Illinois' ongoing budgetary crisis. Additionally, there is a question of measurement. New research by Reardon and Hinze-Pifer from Stanford University has demonstrated that Chicago is actually leading the nation in growth of its students (2). This is particularly remarkable due to how much of the achievement gap is built in before school begins, so Chicago public schools are effectively working double-time to close that gap.

Thus, it is important for researchers to examine a variety of other dimensions when determining whether or not an education policy is truly effective. As of yet, there exists little research on how much extended time promotes growth in particular, rather than just getting students up to grade level. That being said, Chicago illustrates a number of problems which can arise from ineffective use of extended time. Chicago's experiment with extended time was ultimately an unsuccessful one for a variety of reasons, many relating to a failure to finance the program. This was exacerbated by the lack of guidance from the city which prevented schools from using extended time to its full potential. The layoffs which followed the agreement to implement extended time damaged trust between the city and teachers and will no doubt hurt future reform efforts.

SUCCESSFUL EXTENDED TIME

What constitutes a quality extended-time program differs on the basis of both institutional and personal factors. Learning time during the school year is also important; and though more studies on this topic are needed, the evidence is clear that schools offering more instructional minutes have higher average test scores than other schools serving similar student populations. However, we have to dig deeper into how that time is used in order to completely understand how extended time can be implemented at full effectiveness.

A 2005 report by the Coalition for Community Schools found that the most effective after-school programs synthesize "(1) effective partnerships between multiple community organizations, (2) qualified, engaged staff, (3) family involvement, (4) a safe environment, and (5) enrichment opportunities that complement rather than duplicate school learning, often through project-based learning and exploration" (Berg et al. 2). This is a useful framework with which to think about how schools can use extended time. Additionally, as more schools adopt extended time, they should keep those five parameters as well as Fryers's five characteristics in mind. Those are increasing time spent in school by three-hundred hours; high quality, individualized tutoring; a data-centric approach to teaching; consistent teacher feedback; and high expectations within the classroom.

Another framework through which to think about effective extended-time programs was proposed by the National Center on Time and Learning. In their report, Financing Expanded Learning Time in Schools, the group found that, broadly speaking, every school they examined had "three programmatic enhancements… (a) a designated period every day (or most days) for intensive tutoring or another type of intervention support; (b) an expansion of enrichment classes and activities; and (c) more dedicated time for teacher collaboration and professional development" (Kaplan et al. 7).

SUCCESSFUL EXTENDED TIME

The last lens through which we can make suggestions for effective extended-time opportunities is by examining what makes an effective summer program. While they are not a perfect one-to-one comparison, there are a number of lessons to be gleaned from effective summer programs. One extensive review of summer programs uncovered that in order to best support students from low-SES, educators should focus on making learning entertaining by combing academic content with enrichment. Student from low-SES students can reap the benefits of this decision because they often participate in enrichment and extracurricular activities at a much lower rate than their peers from high-SES. Other markers of effective summer programs included adding tactile curricular elements and creating opportunities for summer programs to complement classes during the school year. Lastly, a class size ratio of 1:5 has been identified as a sweet spot to maximize student learning, and one-on-one tutoring has been shown to be similarly effective. However, there is scant evidence directly comparing the two within a program (Alexander et al. 22).

All these characteristics point to one simple fact: how districts use extended time is just as important as acquiring the extended time in the first place. The number one way that schools can improve the classroom with extended time is by implementing high-dosage tutoring in an intimate environment. This is the key first-step to maximizing extended time. Furthermore, as will be discussed later, integrating enrichment activities is particularly important. These will raise student achievement while building soft skills needed for the rest of the student's life. The exposure to the arts and other areas which are frequently neglected in academics can be instrumental in building pro-school attitudes that will resonate throughout the rest of the student's academic career.

Returning to the earlier discussion about improving parent involvement in schools, schools can use an extended-time period to discuss student progress with parents and show them ways to supplement learning at home. That was a key component of one successful Baltimore-based summer program which effectively cut the Black-White achievement gap in half with one summer of intensive tutoring. This program also successfully improved pro-school attitudes and self-esteem. Or, in order to bolster engagement with the community, schools can find opportunities for service-learning to fill a portion of extended time. Schools should tailor extended-time programs to their particular needs; there is no one-size-fits-all solution.

SUCCESSFUL EXTENDED TIME

That being said, one area that is particularly important, which neither of the case studies addressed in-depth, is how professional development should be conducted. Just like simply holding students in the classroom for slightly longer has a minimal effect on improving standards, so will simplistically extending time spent doing development with no significant guidelines. Research has shown that forming "professional learning communities" where as a team, teachers are responsible for each of their students' success significantly improves student performance (Newmann and Wehlage 28). Furthermore, having consistent and organized collaborative lesson planning strengthened teacher instruction and can explain up to seventy percent of the variation in teaching quality and performance across school districts (Louis et al. 765). Just like adding three hundred instructional hours is the benchmark for improving student performance, forty-nine hours is the benchmark for enhancing teacher performance. Professional development programs with fewer than thirty hours had a negligible to non-existent effect on teacher performance (Yoon et al. 14).

Teacher burnout must also be mitigated. Adding three hundred instructional hours is understandably a drain on the energy of teachers. The National Center on Time and Learning has identified three successful ways to reduce burnout: (1) partnering with local community organizations to lighten the load of teachers in the classroom, (2) staggering teachers' schedules so they can take the load off one another and (3) implementing digital technologies in the classroom (Neufeld, How Teachers Deal). For example, Patrick Henry Elementary, one of the few schools in Chicago to successfully implement extended time, rotated enrichment programs in ten-week cycles so that students were exposed to a variety of beneficial programs and no single teacher or department had to bear the full brunt of extended time. One interesting innovation of the school was allowing the security guards to run fitness programs with students. This had the added bonus of reducing the number of new teachers and staff that needed to be brought on while giving other members of the school's community a stake in student success (Neufeld, How Teachers Deal).

SUCCESSFUL EXTENDED TIME

Schools can also use extended time as a way to implement enrichment programs that were cut during the recession. Unfortunately, classes which were focused on drama, fine arts and music were viewed as supplementary to a good education rather than as core components of one. However, with more time in a school day, schools can make strides in re-implementing these programs. There is strong evidence that arts programs can make a powerful difference in improving students' perceptions of the value of school while bolstering pro-social behaviors that are associated with high academic achievement (Burton et al. 36).

Similarly, physical education programs were put on the chopping block and have yet to be reintegrated into schools at pre-recession levels. There is an abundance of evidence showing the connection between moderate physical activity and increased cognitive and creative functioning. A 2003 meta-analysis conducted by Benjamin A. Sibley and Jennifer L. Etnier found that the cognitive areas most significantly boosted by physical activity, IQ and student achievement, were frequently named as reasons for cutting physical education programs in favor of additional academic ones (247).

The big takeaway here is that there are a variety of ways that schools can implement extended time. But, the focus needs to be on improving student outcomes through small-group tutoring and enrichment activities which can take a variety of forms. Additionally, creating a true school community through collaborative teacher development and creating multiple avenues for teachers to decrease their workload to prevent burnout are critical. Part of teacher development should include instruction on how to properly study student data and act upon it in order to drive increased achievement. A brute force method of increasing time in the classroom will not be effective; administrators, educators and community members need to be meticulous in their implementation of extended time in order to close the achievement gap.

BARRIERS TO **IMPLEMENTATION**

Lest other school districts repeat mistakes made in Chicago, it is important to identify the many barriers to implementing extended time in schools. As previously discussed, the first barrier is cost. Summer programs and extended time cost money and educators frequently have to decide whether or not to spend precious money on extending time through summer enrichment programs or on other avenues for success such as reducing class size by hiring additional teachers. While districts are certainly under less financial hardship than during the recession, there is still little money to spend on experimental policy interventions. And, while it may be tempting to hire younger, less experienced teachers in order to make up for a potential budgetary shortfall, this strategy carries significant risks, as seen in the case of Chicago. This is a classic problem in education policy. While reducing the achievement gap will likely pay for itself in increased tax dollars years down the line, the McKinsey study likened the nation's persistent achievement gap to a "permanent recession," as finding funding for it now is often difficult (Auguste 2). While the price of extended time varies by district, one study found that it hovers around an additional twenty percent (Kaplan et al. 9). This is consistent with the Chicago and Massachusetts cases.

The question that underlies much of these discussions is funding. According to the McKinsey study, just over half of all states which implemented extended time ended up cutting the program after federal grants ran out. Additionally, from 2005 to 2010, nearly a third of districts cut summer programs (3). While a holistic examination of possible funding streams is beyond the scope of this paper, there are a variety of ways that schools can fund extended time programs, which will be discussed briefly later.

Simply put, extended time can be expensive. The cost is estimated to require a one to five-hundred million dollar boost from the federal government if we are looking at extending the traditional school day and school year. Due to the persistent gridlock on Capitol Hill, it is unlikely that states will see a large boom in education grants. Thus, the number of schools which can adopt extended time will be, for now, limited to charter schools and public schools which can leverage public-private partnerships. There are extended time programs in Arkansas that are expected to cost approximately 1,300 dollars per student (Barth and Nitta 31). The price tag will vary between the intensity of the program, union rules governing teachers' hours, and the ability of schools to hire new teachers at a lower rate.

BARRIERS TO **IMPLEMENTATION**

In terms of dollars spent for improvement, this is one of the most efficient investments that schools can make in their students. That being said, districts should be given significant flexibility as to what form extended learning time will take in their district. A centerpiece of Minnesota's extended-time program has been allowing schools to circumvent the maximum amount of hours spent in school if they demonstrate a specific plan of action that will improve student performance (Magan).

Acquiring this additional funding often requires creative usage of funding streams. For instance, a report by the state of Connecticut suggested that extended-time programs use federally reimbursable snacks/meal programs in order to kill two birds with one stone (Van Roekel 3). By weaving in greater instructional time with nutritional aid, schools can improve student performance and nourish them, all under the same, generous funding umbrella. Similarly, a school could, for example, identify grants intended to promote learning code in the classroom and dedicate extended learning opportunities to those endeavors. Identifying and filling gaps in funding is essential; there are few documented cases where schools have been able to maintain extended-time programs when extra-local funding lapses.

Another reason uptake has been limited primarily to charter schools is that many public schools have to contend with unions in order to extend teaching hours. In the seminal case of Guilmette Elementary, the school district took advantage of a law which allows a municipality to bypass union rules when the district is flagged as failing (Abraham). This approach is difficult to import to other school districts due to a combination of the fact that different states have different protections for unions and waiting until a school is already failing before improving goes against basic good policy practice. Hence, it is essential to promote a positive relationship between the school district and unions.

BARRIERS TO **IMPLEMENTATION**

Administrators have used a variety of techniques to broker financing extended time with unions. These have included increasing teachers' pay grade for extended time hours, giving educators a flat, stipend or boosting all faculty and staff in the district's pay by a set rate. While there has been scant holistic research on the effectiveness of each of these different strategies, there are certainly a variety of ways that administrators can collaborate with unions to lengthen the school day. As Massachusetts began to explore extended time in the classroom, the Boston Teachers Union (BTU) largely opposed the measures at its inception. However, the city quickly got them on board and reached a pay agreement which allowed teachers to opt-in to the additional instructional hours at a higher rate per hour. By highlighting the additional teacher development aspects of extended time, the city brought the BTU into the fold and, after seven years of collaboration, over ninety percent of BTU members chose to work extended hours (Sahni).

While achieving union buy-in is an essential component to implementing extended time, it is not the only buy-in needed. While union and educator buy-in are frequently closely aligned, they are often not synonymous. Teacher burn-out frequently increases precipitously in the short to medium term. One way policymakers and administrators can overcome this is by building time for institutional teacher supports such as professional development and departmental meetings into the school day. Creative use of community support systems can also improve teacher buy-in. One school in Massachusetts chose to hire a set of parents to supervise recess, giving teachers a much needed lunch break. Lastly, while it is important not to push out qualified teachers, hiring new ones to supplement their work can have powerful benefits. Preliminary research has demonstrated that supplementing staff with tutors can reduce costs in the short-term. Furthermore, when teachers begin to turnover, as is inevitable in any field, tutors can become full-fledged teachers. This reduces training costs in the long-term, and these pipeline programs can become an important source of staffing in the future. The ability of schools to implement these measures differ state-by-state and by how much oversight local governments have over the program, but it should be an important policy consideration. This carries the added benefit of reducing the long-term financial burden of extended time (Kaplan et al. 39)

BARRIERS TO **IMPLEMENTATION**

Community buy-in is also an essential aspect of implementing extended time. Unfortunately, until recently, there has been a paucity of research on the benefits of extended time. A lack of public buy-in means that schools are less likely to invest in extended time. Advocates of extended time need to better make the case to educators and policy-makers that it is a worthwhile investment. Hopefully, positive research on such programs' effects will snowball with more schools adopting extended time thus strengthening the research behind the policy's efficaciousness.

Contributing to the lack of research on the effectiveness of extended time is the fact that uptake of voluntary extended time programs is depressed. In some cases, nearly fifty percent of low-SES students who are eligible for summer programs and who would benefit most from them do not enroll (Kaplan et al. 14). This further contributes to the limited amount of data about their effectiveness. With luck, continued promotion of extended time will allow for deeper analysis of its benefits, and schools will be able to share best practices in terms of finding funding.

Lastly, a frequently under-studied, but still essential, component of public buy-in comes from the students themselves. Working with students to determine what sort of after-school and summer-enrichment programs the school should offer is rarely studied as part of a cohesive program. Thus, collaborating closely with student leadership can be a vital method for promoting extended-time programs. This can also lead to better identifying needs within the community because, after all, who has a better grasp of what schools are lacking than the students themselves?

How schools build public support for these policies will vary by district, but Clarence R. Edwards Middle School in Massachusetts can provide a good model of how to successfully do so. The school district started a focus group, which included administrators, staff, teacher, and other members of the community, to discuss the effects that extended time would have on the school. Their discussions were wide-ranging; they focused on everything from the curriculum to daily operations such as busing to and from school. They also collaboratively researched other schools which had implemented extended time and the challenges they faced. By taking a holistic approach early in the process, the school avoided many of the pitfalls associated with top-down policy leadership (Sahni).

BARRIERS TO **IMPLEMENTATION**

Public support for extended time programs is heavily variable based on the form they take. One survey found that eighty percent of Delaware parents support public funding for extended learning opportunities (Van Roekel 3). This survey was taken after the state cut 10.4 million dollars in funding for enrichment programs that happened before and after school. There are few education policies with as broad public support as this.

However, in another poll, parents rejected the idea of lengthening the school day by fifty to thirty percent, with twenty percent of parents having no opinion. Just under forty percent of parents agreed that additional days should be added, with forty percent in opposition and thirty percent with no opinion. Finally, just over fifty percent of parents agreed that the school year should be configured so that students are in school for about the same amount of time but with a shortened summer vacation and longer spring and winter ones (Bushaw and Calderon 15). While this would likely be the least effective policy intervention of the three options presented earlier, it would limit summer learning loss somewhat. Although the form of extended time may vary by municipality (e.g., if it is constructed as a series of after school enrichment programs or if it ends up as additional days to the school year), there is strong support for schools to extend time in one way or another. Furthermore, there has been no national movement in support of this policy, and many of the attempts have been implemented at the local level. It is likely that a well-focused and -financed public advocacy campaign could turn the tables on public reticence to lengthen time spent in school.

The two primary barriers to schools implementing extended time are the heavy costs associated with it and community pushback. However, there are ample ways that schools can overcome both these challenges through creative use of funding streams and soliciting community feedback at every step of the process.

NO LONGER **OPTIONAL**

Once students fall behind, especially by the end of grade three (Schoenfeld and Stipek), they tend to stay behind. As already mentioned, the achievement gap widens over time (Grubb 188). While there are always outliers, the pattern shows grade three math success predicts grade eight math success. This in turn predicts high school college readiness course completion success, such as completing four years of math. This in turn predicts future college completion success. It would appear, and we are suggesting here, that without targeted extended time accelerated intervention, most students will simply not catch up. Since the achievement gap appears early, one can infer that without academic extended time, we will be limiting options that might close the racial and socioeconomic achievement gap over time. A synthesis of studies on the effectiveness of out of school time (OST) programs found that "OST strategies can have positive effects on the achievement of low-achieving or at-risk students in reading and mathematics" (Lauer et al. 24). Furthermore, the study found that "Students in early elementary grades are more likely than older students to benefit from OST strategies for improving reading, while there are indications that the opposite is true for mathematics" (70).

NO LONGER OPTIONAL

- **A STUDY BY WESTED** of the Silicon Valley Education Foundation's summer math program found that seventy-five hours of accelerated intervention produced significant results in improving the performance of middle school students in math compared to students who were not in the program (Snipes et al. 2).

- **LOCALLY IN** the Silicon Valley area, unpublished evidence exists showing the benefits from extended time out of school opportunities in math. The Oak Grove School District developed the Math Acceleration Program to accelerate students through middle school into algebra at grade eight. At one point, Oak Grove was the only district that had Black and Latino students proficient in geometry under the prior California Content Standards Test in Santa Clara County.

Given the persistence of the racial and socioeconomic achievement gap, and the particular challenge of closing it, we need to examine all options. Certainly issues of access to critical math classes and misplacement must be addressed (Waterman). The issue in this case is not a lack of academic skills but being placed in inappropriate math classes. The same issue of misplacement is evident across A-G classes (Oakes 8). There is no excuse for systemic biases inherent within the system that result in lowered expectations.

EXTENDED YEAR: **SUMMER MODEL**

One way to minimize the cost of extended learning time is to provide it through extended school years and extended day opportunities. Given that success in math by the third grade is so important and that the achievement gap begins to form the minute a student sets foot in kindergarten, using an extended year model early on can mitigate the effects of summer loss by providing students with the opportunity to continue learning during the summer. Once students reach the third grade, extended time opportunities become critical to catching up. While there will always be outliers, most students achieve at a comparable level in the eighth grade as they did in the third grade. Prior research shows that students who were successful in algebra in the eighth grade tended to be more successful in completing college ready courses in high school (Finkelstein et al. 6). How then are students expected to catch up with their more successful peers who achieve grade level or exceed standards by the third grade? Without extended-time accelerated interventions, these students will not catch up despite our best efforts at professional development opportunities for teachers. Extending the school day or school year for all students is an expensive proposition. However, targeting students with extended time opportunities often and early in their school career can reduce the cost significantly.

Summer extended-time opportunities can also be combined with professional development opportunities that instruct teachers how to implement instructional strategies in their classrooms. One example of this is the Silicon Valley Education Foundation's Elevate [Math] program, which combines a seventy-five hour, nineteen day intensive math program with three days of teacher professional development, including in-class coaching and professional learning group opportunities. This program focuses on middle school students in order to impact the achievement gap before students get to high school. A study by WestEd found that this model demonstrated significant results with students participating in the program achieving at over two times the rate than students who did not participate in the extended-time opportunity (Finkelstein et al. 31). This model provides the equivalent of an additional half year of instruction, which is significantly more hours than would be had by simply extending the school year by a few days. Furthermore, this extended-time program targets students who need the extra time. This makes it cost effective, whereas extending the school year includes all students, even those who do not necessarily need the additional help.

EXTENDED YEAR: **SUMMER MODEL**

But, there is nothing magical in the seventy-five hours provided. The amount of time is simply reflective of the traditional summer school program originally funded by the state of California. The Valdés Math Program provides an entire year of instruction, with its targeted and rigorous math program in twenty-eight days, allowing students who are significantly below grade level to catch up. The extended-time model can be applied not only to math but other subjects as well. It is especially useful for students who fall within the low-SES English Learner category, who are challenged to learn another language while also having to learn English language arts and math. The math common core standards are centered around math content literacy. While focusing on increased professional development for teachers helps to improve their instructional practices, students could also benefit from additional targeted and focused extended-time instruction at a level and amount that is needed.

SUMMER ENRICHMENT AND ACCELERATION

> Publicly-funded programs increase underserved students' learning time. Students who participate regularly in California after school and summer programs can gain up to 115 additional days of learning, expanding the regular school year by more than 60%... Evaluations across the state show that participation in expanded learning programs improves academic outcomes. (Brackernridge et als 2).

Beyond extended-time remedial programs, summer extended-time opportunities can also be used to enrich and accelerate student performance, allowing them to exceed standards. For example, the original Stepping Up to Algebra program from the Silicon Valley Education Foundation was intended to accelerate students during the summer so they could take algebra in the eighth grade. Today, in the Common Core era, algebra is no longer the expected standard for students in the eighth grade. We are not going to discuss the acceleration debate here, as it has been addressed elsewhere (Loveless), other than to mention that for students in more affluent communities, accelerated opportunities are often more prevalent than in lower-socioeconomic communities. Summer learning loss occurs because of the lack of equitable opportunities during school down time. However, opportunities can be provided through public funding for students who cannot afford accelerated and enrichment programs as a way to address inequities.

LESSONS TO BE LEARNED

1. Extended time must be adopted by more schools if we are serious about narrowing the achievement discrepancies among the various racial and socioeconomic groups. As studies have demonstrated, lengthening the time students spend in school is a powerful tool to fight the racial and socioeconomic achievement gap in our school system. With proper implementation, there exists a possibility we can improve the competitiveness of American students relative to their international peers. Schools should take after the Massachusetts and Guilmette Elementary flexible model for extending time and pay close attention to how they use additional time in the classroom. Extended time should not only be used for instructional purposes. Professional development and discussing uses for student performance data are important ways to improve success in the classroom.

2. In terms of politics, state and local governments will need to generate community buy-in in order to push forward the extended-time policy agenda. During the Obama era, unilateral federal efforts to increase the length of the school day were met with political gridlock and pushback from educators and parents. Delineating the benefits of extended time to community members will be especially important since summer break and the traditional school day play such a central role in American cultural perceptions of education. There is precedent for increasing the school year for students. In 1983, SB 813 ERIC, Hughes Hart Educational Reform Bill increased the school year by five days (California Department of Education). While this was a step in the right direction, it was not enough to impact the achievement gap. During the recession of 2009, many districts had to shorten or modify their school year in order to balance budgets, mostly impacting the students that could least afford a reduction in instructional time.

Policymakers and administrators will also need to coordinate closely with school faculty and staff and their respective unions. Simply mandating that teachers work longer hours with little additional compensation will worsen the working relationship between all stakeholders and make further reforms more difficult. Charter schools have been able to introduce extended time most readily since often they are not constrained by collective bargaining parameters. This is unlikely to be a replicable model nationwide. Therefore, school districts need to identify and share best practices for generating and sustaining public support for extended time, and taking advantage of after school and summer programs for targeted underserved students.

LESSONS TO BE LEARNED

3. Another way districts can extend time early is to expand the kindergarten school day. Currently, the minimum school day for kindergarten students is 180 minutes. In a study of the effects of full-day kindergarten, encouraging results, showed that full-day kindergarten had sizeable learning advantages, especially for Latino students from low-income backgrounds (Gibbs 27). The National Educators Association "recognizes that full-day kindergarten programs close the achievement gaps between young children from minority and low income families and their peers" (4).

4. Schools need to better identify local partners for enrichment programs. A consistent theme in successful extended-time programs is working closely with local groups that can provide additional services to schools. This includes organizations such as the Boys and Girls Clubs and the YMCA. School districts should also draw upon religious, civic and business organizations as needed. Ideally, these organizations can provide services which are normally beyond the scope of school districts while complimenting student studies. More research is needed to examine how effective extended-time is impacted by a variety of factors (Hattie 1). Researchers should examine what types of extended-time programs are most effective and what sort of programs should be implemented in tandem with them. There are still serious questions about how extended-time should be used in the school day. Additionally, measuring success among a different set of criteria will be increasingly important to adjust programming to different schools' needs.

Furthermore, critical examination is needed of the ancillary benefits of extended-time. Pushing students to meet and exceed academic standards is the first and most important goal, but building a holistic understanding of how extended-time can have lasting benefits for students is important as well. For example, are students who attend extended-time schools more likely to graduate college? Are they more likely to feel greater satisfaction at school? Do they graduate at higher rates? The aforementioned PACE policy paper presented research to the positive effects of extended-time opportunities. Clearly, much of this would be a function of higher test scores, but it is also a possibility that these benefits could be a result of extended-time programming. Since many of the policies for extended-time are relatively new, longitudinal studies should be conducted to examine the lasting benefits of extended learning opportunities.

LESSONS TO BE LEARNED

The type of extended-time opportunities should also be aligned with the needs of the students. For example, while enrichment out-of-school activities can serve a variety of purposes, including providing motivating experiences for students, they may not necessarily improve desired targeted skills in specific subjects such as math. This can be a complex challenge for districts as they address the achievement gap that can form early in a child's education. Since the learning of math in particular is so important, extended-time opportunities ought to provide inspiring yet rigorous opportunities to expand on standards taught during the school year in math. The parameters around extended-time opportunities ought not to be limited exclusively to getting students to grade level standards, rather they should also look for ways to accelerate students. This includes targeting students of color to achieve success in rigorous math and science courses in high school. If we are serious about diversifying the workforce in STEM fields, particularly in engineering and computer science, more students of color must complete rigorous math and science coursework in high school if they are to be accepted in these challenging STEM majors.

5. Budgetary and personnel shortfalls need to be addressed. As more schools move to address the achievement gap through extended-time, they will likely become increasingly crunched for money. Local schools need to identify possible public-private and community-based partnerships that will not only improve programming, but also provide funding streams to pay for both additional teachers and additional hours taught. It is likely that federal, state and local governments will need to raise and distribute a significant amount of funds to pay for these new policies. Putting an exact number on how much it will cost to implement extended-time in every school across the country is nearly impossible, given the sheer number of variables at play. However, the benefits from extended-time more than justify the costs. There are few policies which so effectively address the achievement gap.

CONCLUSION

The American K-12 education system used to be the envy of the world; however, it has gradually slipped in strength as other nations copied and built upon our teaching techniques. Just like much of our society, the benefits of our education system are stratified strongly along racial and socioeconomic fault lines. This is neither morally permissible nor the basis of a strong economy in the twenty-first century. Extended-time alone will not solve the achievement gap and addresses systemic inequities, but a strong case can be made that it is more than a fringe intervention. It is an essential practice that is no longer optional if we are to make our education system more equitable.

> Extended time is an essential practice that is no longer optional if we are to make our education system more equitable.

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