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Expanding Learning Time in Schools: Considering the Challenges of Implementation and the Potential Impact

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Expanding Learning Time in Schools: Considering the Challenges of Implementation and the Potential Impact

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Introduction

In May 2012, the Ford Foundation announced a \$50 million commitment over 3 years to double the number of US schools that feature schedules substantially longer than the conventional standard of roughly 180 6-1/2-hour days. In service to this effort, the Foundation, in partnership with the National Center on Time & Learning (NCTL), has launched a public advocacy campaign to build grassroots support for both the idea of more school time and for its implementation in districts across the country. In point of fact, implementation of a longer school day and/or year is already fairly widespread and continuing to grow. The number of aptly named “expanded-time schools” in America currently stands at over 1,000, according to the latest count tallied by NCTL in its national database.¹ The population consists of schools in cities, suburbs, and rural districts. It includes elementary, middle, and high schools, spread across nearly 40 states, with about 75% of the schools eligible for Title I funding (the federal designation for schools serving a majority low-income population). The catalog contains about 600 charter schools, which typically have the structural autonomy to determine their own schedules, and also includes over 400 district schools that have, through an assortment of policy and funding mechanisms, broken from the conventional to build in substantially more time into the school day and, often, more days into the school year.¹

The sheer number and variety of expanded-time schools raises 4 essential questions. First and foremost, why do educators and education thought leaders find the current standard American school calendar insufficient to meet students’ educational needs, especially those of poor students? Second, when educators perceive this need, how do they go about implementing a day and/or year that not only is longer but that also leverages the nontraditional schedule to offer a higher quality education? A part of this question of implementation entails the reality that, in many cases, longer days cost more because of higher staff compensation, for example. Third, does the act of expanding time bring improvements in student achievement as intended? Attached to this inquiry is the very real challenge of trying to measure the precise impact more time might assert on teaching and learning and the complex relationship of time quantity to educational quality. Finally, if expanded time does prove an effective strategy in raising student achievement and improving schools, what are the possibilities for more schools to implement similar educational models that rest on a longer day and/or year?

Why More School Time?

There are 5 basic arguments that educators and policymakers employ to explain why a school calendar that extends far beyond the conventional is necessary to prepare today's students adequately for college and career. Before exploring these, it is important to note that, based on data collected through the 2008 Schools and Staffing Survey managed by the U.S. Department of Education, the current national average calendar is 179 days and 6.7 hours. Equally important to mention is the remarkably small range within this average. The number of days per year for U.S. public schools at the 25th percentile stands at 176 days, while the number at the 75th percentile is only 4 days more (180 days). Similarly, the number of hours at the 25th percentile is 6.41 (about 6 hours, 25 minutes) and at the 75th percentile is 7.0 hours; only 35 minutes separates the top quartile from the bottom.²

It is from this baseline that we can then define an "expanded-time school" as having a day that is at least 7 hours long (i.e., in the top quartile of all schools) *and* that is at least 30 minutes longer or as having a year that is at least 10 days longer than surrounding district schools. This definition—the same established by the NCTL database—is used because it captures the notion that creating a legitimate expanded-time school fundamentally entails 2 strong impulses: first, the need to build in meaningfully more time into the school day (and/or year) for the purpose of enhancing teaching and learning and, second, the need to depart in a noticeable way from the surrounding norm as a distinguishing feature of a school's educational model.

The first of the 5 reasons proffered why schools should move away from the conventional school schedule is historical or, one might say, sociohistorical. The current school calendar of approximately 180 days was fixed in the national education landscape by the 1920s. It came about as public schooling moved from an institution that was simply *available* to youngsters—the model that dominated in the nation in the years before the Civil War—to one where school attendance became *mandatory*. In moving to a mandatory system that would be regulated by states, legislatures essentially sought to compromise between rural districts, which tended to have school years of approximately 100 days to accommodate the economic needs of farmers, and one of urban districts, where school was available (though not required) most weekdays throughout the year. By the late part of the 19th century, the standard required year in northeastern states had coalesced around 180 days, and

within 30 years, most states mandated a school year ranging from 170 to 180 days.³

When a majority of children lived in homes where there was at least 1 parent who did not work outside the home, the school schedule that left children at home in the afternoons and for extended periods throughout the year was not an undue burden. Yet in the 21st century, this calendar seems no longer to reflect the social structures of today's society. Most children now live in homes where both parents (or a single parent) work outside the home. To have schools operate on a schedule that is at odds with that of the typical workday and year is not only impractical but also raises a host of issues related to child care and children's safety.⁴

The second line of reasoning for more school time also involves a comparison, not from past to present, but between the United States and other nations. The argument has been articulated by President Barack Obama, who in a March 2009 address also referred to the 19th-century roots of the school calendar:

We can no longer afford an academic calendar designed for when America was a nation of farmers who needed their children at home plowing the land at the end of each day. That calendar may have once made sense, but today it puts us at a competitive disadvantage. Our children—listen to this—our children spend over a month less in school than children in South Korea—every year. That's no way to prepare them for a 21st century economy. That's why I'm calling for us . . . to rethink the school day to incorporate more time—whether during the summer or through expanded-day programs for children who need it.⁵

In fact, available data confirm that the United States features one of the shortest school years among industrialized nations.⁶

President Obama's argument draws a straight line between our education system—and its graduates—and our economic standing in comparison to other nations. It rests on 2 assumptions: (a) more time will yield more learning and (b) more learning will mean a stronger workforce. These assumptions are so deeply held that they need not be stated explicitly to drive home the point to the American public that an education system with a calendar that is significantly shorter than that of other nations implies a weaker workforce.

A third argument focuses more specifically on the first of these 2 assumptions—the connection between more time and more learning—and offers some evidence to validate it. The first to frame the question in a way that moved beyond the visceral sense that spending more time learning particular content will lead to greater knowledge of that material was John Carroll in the early 1960s.⁷ An educational psychologist, Carroll sought originally to distill the many overlapping theories of learning into a simpler

rendering of how the learning process in schools works. In due course, Carroll determined that the process ultimately revolves around time. Time acts to regulate how much students (or individuals generally) learn and can be expressed simply as a ratio of how much time a learner *spends* learning to the time a learner *needs* to achieve mastery of a particular “piece of learning.” (See Figure 1.)

Figure 1. The Carroll Model of Learning

$$\text{Degree of learning} = f \left(\frac{\text{Time Spent Learning}}{\text{Time Needed for Learning}} \right)$$

Subsequent experiments by Maribeth Gettinger proved the veracity of Carroll’s formulation: the more time students spent learning a reading passage, the greater their comprehension, especially when that time spent most closely matched the time students estimated they needed.⁸⁻¹⁰

Other researchers have adjusted Carroll’s model to detail more explicitly how the learning process, enveloped by time, plays out in the real-world setting of schools. The most ambitious effort involved using data collected through the Beginning Teacher Evaluation Study in California in the 1970s. Through classroom observations, Fisher et al¹¹ were able to determine not only how much time was allotted to instruction but also how much time students actually spent learning. Then they sought to test how these various time quantities correlated to student learning. On allotted class time measures, the researchers found only weak associations to student outcomes. However, the correlations between outcomes and quantities of class time in which students were actually learning—a portion they named “Academic Learning Time” and that represented just a fraction of overall allotted time—were relatively strong.¹¹ Subsequent research, using another data set, found similar correlation levels for top-performing students but with an even greater influence of time spent learning on the lowest-performing students.¹² At base, then, this research verifies the notion that the more time students engage in learning, the greater their proficiency is likely to be.

As solid as the theoretical underpinnings and evidence are that learning time is closely bound to student learning, they are not the primary reason why practitioners and policymakers are seeking more learning time, a goal accomplished by expanding overall time in schools (i.e., a longer day and/or longer year). Instead, the driving force behind the desire for more learning time is both the perception and the reality that today’s

students are expected to know and to do more than they have in previous generations. (Greater amount of educational content is the result of the standards-based education approach that took hold in the 1990s and has intensified over the last decade, since the implementation of No Child Left Behind in 2003. The basic principle of the approach is that schools must teach sufficient content in reading, math, and other subjects such that graduates will be well prepared for college and career.) Practitioners then believe that, to enable all their students to become proficient in this increased content, they will need additional time to teach material and their students additional time to practice, to understand, and to apply said material. Whether teachers have a finely tuned sense of the Academic Learning Time of each student in their class is immaterial in this context. Rather, many practitioners contend that a longer day and/or year is necessary in order that their schools might build in the additional class time (and, by extension, learning time) their students require to master the greater degree of content.

How does this perceived mismatch between time needed and time spent reveal itself? A survey of teachers across 4 states found that less than half (48%) believed that they had sufficient time to cover the curriculum.¹³ With 46 states set to implement the Common Core Standards—the most rigorous standards in reading and math to date—the perceived differential between time needed to teach the expected curricula and time available will likely only grow. Consider that in Massachusetts, a state with current standards of equivalent rigor to that of the Common Core, only 39% of teachers believed they had sufficient time to teach the curriculum.¹⁴

In fact, in the case of Massachusetts, ever since the state introduced higher standards in the mid 1990s, not only teachers but also the designers of the more robust content recognized the implications on learning time. “If schools are to meet the enormous demands of assisting students in meeting these new standards,” the Massachusetts Department of Education wrote in 1995, “it may become necessary to increase the amount of time that students spend directly involved in education.”¹⁵ (p4) The Massachusetts Commission on Time and Learning (1995) made an even stronger case:

It has become increasingly obvious that campaigns for higher standards of learning on the one hand and for sufficient time to achieve those standards on the other are wholly interdependent. They stand or fall together. Only a public determined to apply higher standards for all students will support more time and better time. But only more and better time will provide the teaching and learning needed to open the way for students to reach those standards.¹⁶ (p2)

The fourth argument for seeking more time might be considered the practical converse to the third—not sacrificing the pursuit of a well-rounded education to meet high academic standards. According to a survey of parents released in 2008, 84% believe a “well-rounded education” should be a “critical” or “very important” goal of their children’s schools.¹⁷ As pressure rises on schools to demonstrate their capacity to enable all children to achieve proficiency in reading and math (as measured by state assessments), there is concern among parents and the general public that schools may end up dedicating too much time to only those tested subjects. They worry that academic subjects like science and social studies that are not tested, to say nothing of non-academic subjects like the arts and physical education, run the risk of being squeezed out of the day.

There is some evidence to suggest that these concerns are justified. A 2008 survey of elementary schools found that their students spend, on average, 142 more minutes per week in English classes and 88 more minutes per week in math than in the days before the 2003 No Child Left Behind Act (NCLB).¹⁸ Without more time available across the whole day, schools have instead had to reallocate time use within the temporal boundaries of the standard-time day, taking minutes from other classes to feed these increases in English and math. These “time losers” include science and social studies (now meeting about 75 fewer minutes per week), followed by art (57 minutes per week), and physical education (40 minutes).

These average losses are not necessarily spread evenly across public schools. The US Government Accountability Office indicates that these time reductions may be felt more profoundly in schools serving high-poverty populations, in schools designated as “needs improvement,” or in schools that had higher percentages of minority students, as they were much more likely to report decreased time spent in the arts than schools that are not deemed in need of improvement.¹⁹ On the flip side, evidence suggests that schools that do have more time across the whole school day are able to devote more time for the classes that are typically classified within the well-rounded-education domain, including science, social studies, physical education, and music.^{2(p12)}

Finally, a more recent justification for expanded time has been the idea that, with more hours during the school day and more days in the year, schools are better able to facilitate regular time for teachers to collaborate. It is during these dedicated sessions that teachers discuss not only the performance of individual students but also the strengthening of pedagogical techniques to better address student learning needs. Further,

these opportunities can lead to higher-quality instruction because teachers often act to hold each other accountable to high expectations. These sets of behaviors and attitudes then coalesce into “professional learning communities,” the collaborative effort of all faculty members to improve student learning and achievement across a whole school. Research has found that, among various school conditions, having a regular time for teachers to meet together is the most powerful factor generating this mutual commitment—one that explains up to 70% of the variation in the relative strength of professional learning communities among schools.²⁰ While having sufficient collaboration time does not necessarily depend on a schedule that is markedly longer than the traditional, more time helps to ensure its inclusion and full implementation.

For 2 key reasons, all 5 of these arguments find particular relevance for schools serving students from more disadvantaged backgrounds. First, poorer students typically have limited learning opportunities outside of formal education, such that time spent in school appears to be a powerful means to keep them from lagging even further behind their more affluent peers. Research has shown, for example, that students from lower socioeconomic status (SES) and those from higher SES make nearly identical gains during the academic year. Over the summer, however, higher SES students continue to increase knowledge and skills, while lower SES students not only lose academic ground relative to advantaged students but also absolutely. They actually do worse on tests in the fall than they did in the spring, so they slip even further behind their peers.^{21,22} That is, achievement gaps are caused not *by school* but, rather, by low-income students’ time *away from* school. This phenomenon would suggest conversely that a prime means to narrow achievement gaps would be to provide those lagging behind more time in school.

Yet poorer students appear more likely to attend schools that feature a shorter day than those serving more affluent students. A study of teacher time diaries—perhaps the most precise way to measure school time—found that white students (who correlated to higher-income families) were more likely to attend a school with longer days. Further, minority students spent less time in enrichment classes and more time in academics, in part because they lacked a longer day in which to build in substantial time in the arts and other non-core academic classes.²³ Together, these 2 facts—that lower SES students need more school to catch up academically to more affluent peers and that they actually are provided less school—indicate why educators of high-poverty students tend to be strong advocates for more school time.

The How and What of Implementation

It is one thing to believe that students, especially poor students, should have more time in school. It is quite another to make such a major shift in the norm happen. Indeed, 3 obstacles stand foremost in the way of expanding school time. The first of these is money. Public funding of schools is very much tied to school time because the chief operational cost of schooling—personnel, especially teachers—rests on how much staff are paid for their time worked. Collective bargaining contracts usually designate the number of daily required hours for teachers to be on school premises and, in many cases, indicate the hourly rate teachers must be paid if they work beyond those required hours. Expanding school time, thus, typically translates to higher compensation for teachers.

The second complication is the infringement of school time expansion on family life and other student commitments. If the school day were to be lengthened by 2 hours, for example, students with after-school employment or activities like athletics or private lessons would be hampered from participating in them. Likewise, parents might resist the expansion of the school year into the summer months when families may travel or depend on students to obtain full-time employment.

Finally, the “inertia factor” should not be underestimated. School systems, like most large institutions, rely on some level of constancy to ensure smooth operation. At times, however, this bias toward stability can lead to a kind of institutional sclerosis, where practices are maintained, even if they work against the best interests of those who are the intended beneficiaries of the institution.²⁴ To execute large-scale structural change, such as schedule expansion, in such a system requires, first, that leaders explain to the various constituencies served by the institution why a disruption of the status quo will be of greater value than maintaining it, followed next by a critical mass of the institution’s constituencies demonstrating support for said disruption.

Even with these 3 barriers in place, a sizeable number of schools have been able to break from the conventional school schedule, using a variety of mechanisms to overcome them. The most consistent and common route is as a charter school. (As noted, charters comprise 60% of the NCTL expanded-time schools database.) Charter schools, which first made their appearance in the U.S. in the early 1990s, are public schools established outside the traditional district system to operate autonomously, free from the regulations and policies that govern typical district schools. Charter schools are most often authorized by states but, in some jurisdictions, are chartered by districts or other agencies.

Importantly, students attend these schools by choice and must register to attend as an alternative to their assigned district school. In most states, money follows the student, meaning that the per capita funding (or some portion of it) that the student's home district would have received to educate that child is transferred instead to the charter school, where that student is now being educated. Charters then have considerable flexibility in how to apply those funds to support their particular educational model.

Given this structure, it becomes apparent why charter schools, regardless of their educational strengths and weaknesses, are best positioned from a legal and organizational perspective to be able to deviate from the conventional calendar. For one, charters are not bound by collective bargaining agreements or other district policies that set the number of hours and days schools are in session. As long as they meet state minimums, charters can set whatever schedule will serve the needs and interests of their student body. Second, freedom from collective bargaining means that teachers can be paid based on the school's own salary schedule and one that is not necessarily linked to hours worked. Third, because students choose to attend charter schools, the obstacles associated with imposing a schedule upon an unwilling student (and parent) body are rendered moot; if the students and parents do not approve of the longer days and/or years, they need not choose to register at that school. Finally, as a "start up," charters are not weighed down by inertial factors that resist large-scale change.

Until recently, chartering was the most significant means to enable expanded time in public schools. Of the expanded time schools in the NCTL database that have been confirmed as operating for at least 3 years, for example, over 80% are charters.¹ In the last 3 years, however, the federal government has taken a leading role in promoting and funding expansion of time. Unlike charters, which break from the conventional schedule by establishing wholly new schools separate and apart from the district, the strategy promoted by the US Department of Education (USED) is deliberately intended to be implemented in existing district schools and, moreover, in schools that have a demonstrated need for major structural change. This federal initiative grows out of the Department's School Improvement Fund, the program that aims to "turn around" chronically low-performing schools. In funding schools to engage in a reform process that will lead to higher student achievement, the USED explicitly calls for the introduction of "increased learning time" as one of the key reforms schools must undertake. (Schools must also make large-scale staffing changes and implement robust tutoring and data systems.) The School Improvement Grant (SIG) program, with monies totaling about \$4 billion in

FY 2010, provided grants to over 1,200 schools nationwide in the 2010-2011 school year.²⁵

Preliminary evidence indicates that only a minority of schools have expanded the schedule in a way that would meet the working definition of this paper. In the NCTL database, only 77 SIG schools meet the definition of an expanded-time school. Nonetheless, the SIG program is significant because, in addition to increasing the number of expanded-time schools nationally, it does prioritize more time as a pivotal lever in a school's efforts to generate improvements in educational efficacy. In other words, the SIG framework resets the concept of expanded time as a kind of "boutique alternative" as practiced in charter schools into a meaningful strategy that should be adopted by district schools to boost student achievement.

Aside from these 2 major drivers of expanded time in public schools—charters and the SIG program—most of the other instances of schools building in significantly more time into their schedules are found in unconnected district initiatives or individual schools that, by dint of singular champions who have pushed for them, have carved out unique structural autonomies and funding streams to support a longer day and/or year, at least for some period of years. The Achievable Dream Academy in Newport News, Virginia, for example, includes a middle and high school that emerged in 1994 from a partnership among the school district, city, and local business community. It operates with a day that is 8 hours long and a 210-day school year. District initiatives to expand school time include the "Apollo 20" program in Houston, Texas, and the Plus One initiative in Volusia County (Daytona Beach), Florida.

The story of how expanded-time schools came to be in Massachusetts is fairly typical. The first instances occurred when the state legislature passed the law allowing for the approval and establishments of charter schools in 1993. Though there was nothing official in the legislation that referred to the school calendar, the law did allow (and even encouraged) these new schools to function with school structures and educational programs that were distinct from the conventional. As a result, when the first 15 charter schools were approved by the Board of Education in 1995, almost all of them featured some form of a longer school day and/or year. In the decade and a half since the first charter schools were established in Massachusetts, 52 of the now 73 charter schools feature a day longer than surrounding schools.¹ In many cases, charter schools have more days in the school year as well.

In addition to these new schools chartered by the state, the city of Boston had also initiated an in-district version of charter schools, named

“pilot schools,” beginning in 1995. Granted similar (though somewhat more limited) autonomies as Massachusetts-authorized charters, these pilot schools had some flexibility around scheduling. A handful of the now 21 pilot schools have taken advantage of this opportunity by operating with a longer day—at least 1 hour longer than typical Boston Public Schools.

Where Massachusetts is unique from other states is its state initiative (outside of mandated turnaround efforts) that funds the conversion of traditional district schools to a substantially longer schedule. In 2006, the legislature introduced a new line item in the state education budget allocating \$6.5 million to the Expanded Learning Time program that would fund participating schools to add 300 hours annually. Districts would apply to the state’s Department of Elementary and Secondary Education on behalf of schools that sought to add school time for the express purpose of raising student achievement. In turn, the Department would administer grants (at a rate of \$1,300 per student) to those schools that could best articulate how this additional time would not merely be tacked on but would fundamentally change the design of the educational program. A key stipulation was that the extra time had to be distributed to 3 areas: (a) more academics, (b) more enrichment, and (c) more teacher collaboration and professional development. Districts also had to demonstrate support from teachers in the respective schools and their collective bargaining units.

The first year, the state funded 10 schools across 5 districts. Over the next few years, the Expanded Learning Time Initiative added a number of schools, as the state funding for the program peaked at \$17.5 million, supporting 26 schools in the 2008-09 school year. The Initiative included 19 schools across 9 districts for the 2011-2012 school year. Massachusetts remains the only state that has a program to enable expanded time that seeks to overcome the 3 major obstacles by having voluntary participation (at least at the administrator and faculty level), by establishing a program specifically designed to break from the status quo, and by designating funds to support the schedule expansion.^{26(p6-8)}

All told, then, Massachusetts has 90 expanded-time schools scattered across 29 communities but concentrated in the largest cities, with 29 located in Boston alone. (See Figure 2.) They represent about 5% of the total schools statewide (n=1,824). Expanded-time schools tend to be aimed at supporting high-poverty students, as the average low-income percentage in these schools is twice the rate of the state. Further, among the 559 schools that serve a student body that is at least 50% low-income—the working definition in this paper for a high-poverty school—77

(or about 14%) feature a schedule with more time. A quick data portrait of the ET schools in Massachusetts is contained in Table 1.

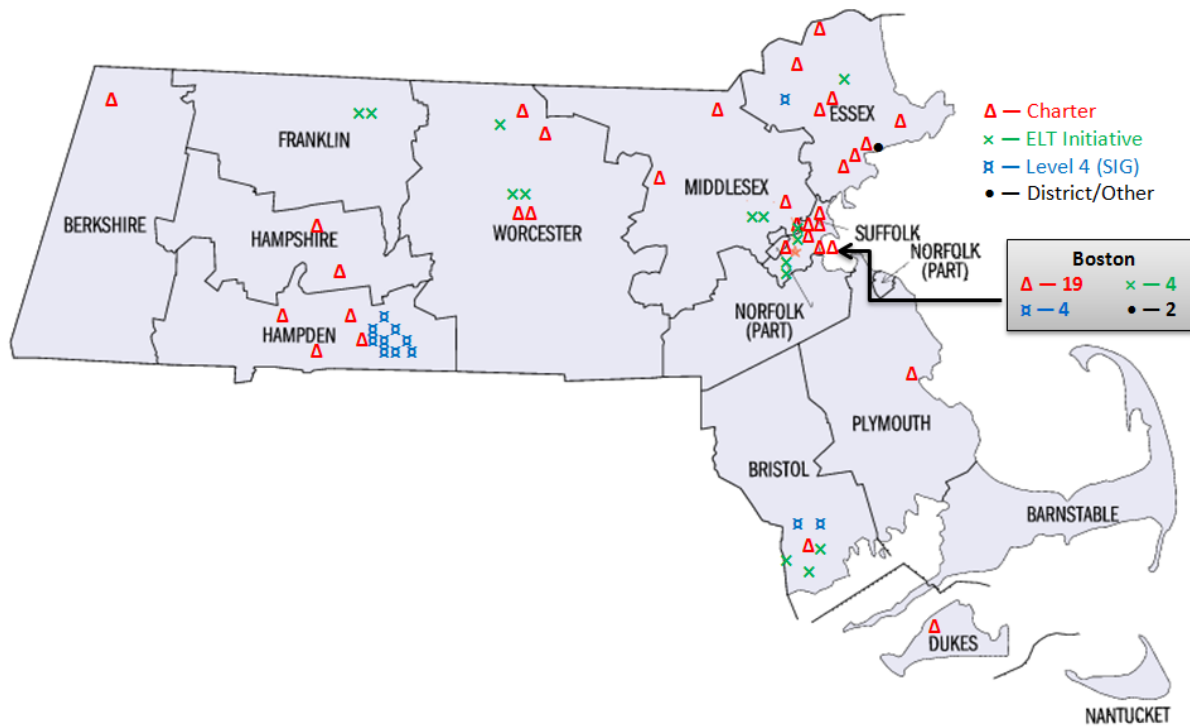
Table 1. Basic facts about expanded-time (ET) schools in Massachusetts

	Expanded-Time Schools	All Massachusetts
<i>Basic Characteristics</i>		
Total number of schools	90	1,824*
Total students served	43,700	953,369*
Average % low-income (weighted)	68	35*
Average % Limited English Proficient (weighted)	14	7*
Average length of day	7.7 hours	n/a
Average length of school year	184 days	180 days*
<i>Types of ET Schools</i>		
Charter	52	73
ELT	19	n/a
School Improvement (federal grant)	16	37
Other/district	3	n/a

* Inclusive of expanded-time schools

Important to note about how the daily hours of ET schools compare to the traditional district schools is that the state requires a legal minimum of 180 days and total instructional hours of 900 hours for elementary and 990 hours for secondary schools. Thus, with a 180-day year, these annual hours translate to the equivalent of 5 or 5-½ hours of instruction per day, not to include lunch, recess, or passing time.

Figure 2. Location of expanded-time schools in Massachusetts



The Effects of Expanded School Time

The fact that educators in at least 1,000 schools have made the conscious choice to add significant time to their school day and/or year indicates that they believe that this departure from the conventional schedule will benefit the teaching and learning process and, in turn, will have a positive impact on student levels of proficiency. Certainly, as the first section details, such belief is justified, in part, by considerable research, but are such convictions borne out in the real world? Do schools with substantially more time post better student outcomes and, if so, how? Research into this question divides into 3 basic camps. The first 2 tend more toward the quantitative end of the spectrum, relying primarily on statistical analysis to determine the impact of more time. Of these 2, 1 considers the role of time as a factor retrospectively, examining how expanded time may have played a role in schools that have demonstrated stronger than average performance among their students. The second considers the role of time prospectively, probing whether the introduction of more time in a school or set of schools has delivered measurable change in student performance. The final method, meanwhile, is more qualitative in nature, offering descriptions of how the reality of a longer day and/or year influences the work of education practitioners, as reported by those practitioners. Following is an attempt to synthesize or, at least, to consolidate the findings of these 3 streams of inquiry and to identify those areas that remain without sufficient answers.

The most meticulous studies within the first set of research typically center on data culled from charter schools. Research from Will Dobbie and Roland Fryer, for example, examined charter schools in New York City to identify those elements within schools that had the greatest impact on academic outcomes.²⁷ The researchers considered traditional factors expected to have an effect on student performance, including teacher certification, class size, and per pupil expenditure, and found that these, in fact, yielded minimal correlation to outcomes. Instead they identified other often overlooked components, including the amount of instructional time and high-dosage tutoring, to be much stronger predictors of higher achievement.

Caroline Hoxby and colleagues, also studying the sample of charter schools from New York City, reached a similar conclusion about the link of performance to both longer days and years.²⁸ A more qualitative analysis of charter schools in Boston connected the substantially longer days and years of the charters as a likely factor in their students' outperformance of students in traditional district schools.²⁹ Outside of the charter school set, a frequently cited study found that, once controlling for background,

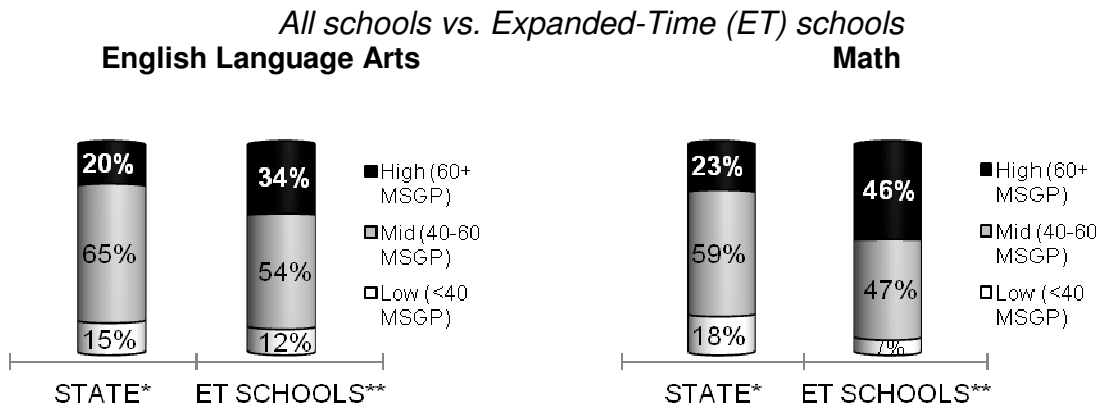
students with 200 days in kindergarten made significantly more progress in mathematics from kindergarten to first grade than did students with 180 days of school.³⁰

In the same vein as these retrospective studies, the National Center on Time & Learning conducted its own analysis of the cohort of expanded-time schools in Massachusetts to determine if student growth measures were greater in this cohort versus the general (i.e., regular-schedule) population of schools. The analysis uses the Student Growth Percentile, or SGP, which was developed by the state to measure how individual students perform each year compared to peers across the state with the same performance history. Specifically, “Each student with at least two consecutive years of MCAS scores will receive a *student growth percentile*, which measures how much the student changed relative to other students statewide with similar scores in previous years. Student growth percentiles range from 1 to 99, where higher numbers represent higher growth and lower numbers represent lower growth.”^{31 (p1)}

The state then uses the SGP metric to determine how whole schools (and grades within schools) have performed. In particular, by identifying the *median* SGP within a school (or grade at a school), it is possible to discern the relative capacity of a school to change overall student performance (what might be termed its “value added”). Given the nature of the SGP metric, about two-thirds of all schools statewide post a median SGP (or MSGP) of between 40 and 60. Of the remaining one-third, they fall evenly on the lower and higher ends of the bell curve. So a school with a MSGP above 60 is considered to be a high-growth school, besting about 85% (i.e., roughly five-sixths) of all schools in the state. Likewise, a school with under 40 MSGP is considered low-growth, with about 85% of schools performing better.

As Figure 3 depicts, expanded-time schools in the state are more likely than traditional Massachusetts schools to promote high academic growth among their students (i.e., post a MSGP of at least 60). Specifically, students who attend an expanded-time school in Massachusetts are 1-½ times as likely to be in a school that is high growth in English language arts (ELA or reading/writing) and twice as likely in math than if they were attending a regular school. Similarly, they are less likely to be in a school that posts low growth. The proportions are even starker for schools that serve a majority of low-income students. (See Figure 4.)

Figure 3. Percentage of schools in low-, mid-, and high-growth categories among all Massachusetts schools

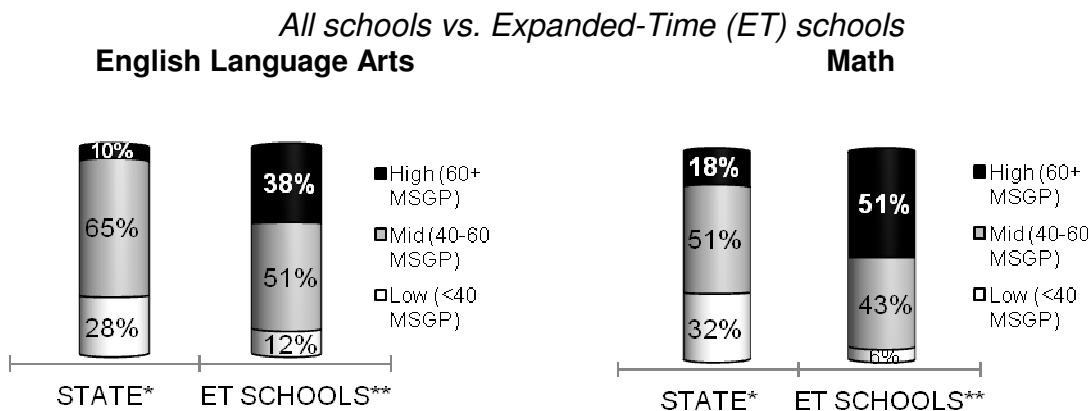


*N = 1,505 (all schools with SGP reported, expanded-time [ET] schools removed)

**N = 68 Massachusetts ET schools identified in NCTL database with 2011 outcomes; TechBoston Academy included as two schools (Upper and Lower Academy)

22 ET schools were either not ET schools in Spring 2011 or did not report 2011 SGP outcomes.

Figure 4. Percentage of schools in low-, mid-, and high-growth categories among majority low-income schools only



Low-income schools = Schools with at least 50% low-income population (Free/Reduced Price Lunch) in 2011.

*N = 437 (all low-income schools with SGP reported, ET schools removed)

**N = 53 Massachusetts low-income ET schools identified in NCTL database with 2011 outcomes

Even with these strong associations discovered between expanded time and better performance (or higher growth) researchers are quick to point out that these studies highlight only correlation not causation. As indicated above, there is sufficient evidence testing the more-time-equals-more-learning dynamic for individual students to confirm it as a general principle in both controlled and classroom settings. It is, however, much more complicated to determine how this dynamic might play out across whole schools and, more significantly, how it is that quantity of time relates to the hard-to-define matters of instructional quality and the holding of high expectations. The key question that these retrospective analyses leave partially unanswered is whether having more time is the source of higher student outcomes or whether the fact of a school having more time is instead associated with other educational components (e.g., strong leadership or higher-quality instruction) that might actually be the primary reason(s) why students tend to perform better. That is, we are still left to wonder whether it is the additional time that is leading to better performance or whether those schools most likely to be filled with effective educators are also those that accept an expanded-time schedule as necessary for their work. It becomes a chicken-and-egg matter, and thus, it is difficult to isolate quantity of time *at the school level* as a definitive factor in influencing student achievement.

From a research perspective, then, examining the effects of time prospectively might seem a more promising approach to determining the arrow of causation. Through this methodology, researchers can more systematically examine the status of student achievement before the intervention of more time and then compare it to the levels of student achievement with the presence of more school time. Indeed, results from the prospective approach do increase the degree of certainty of effects of expanding time on student performance, though vital questions still remain.

Consider first a meta-analysis of the effects of expanded time on student outcomes; this meta-analysis examined 15 empirical studies of extended school days and/or years (i.e., investigations that considered student outcomes *before* more time was introduced and the detected change *after* a longer schedule was implemented).³² The authors found that adding time was, more often than not, associated with improved student outcomes, noting stronger effects for schools serving large populations of at-risk students. A similar review published more recently reaches a nearly identical conclusion.³³ Still, neither of these analyses could be definitive in their findings for 3 reasons. First, the authors note that many of the studies they reviewed were poorly designed to discern

the degree to which expanded time rendered effects. (Patall et al³² do observe that the better-designed studies show more consistently positive effects.) Second, authors find that the research base is too sparse and erratic to determine optimal time amounts, the core matter of linking time to learning. Instead, as one review explains, they are left to speculate that, based on the available evidence,

. . . it seems likely that the relationship between extended school time and achievement would function as a sigmoid growth curve. That is, extending school time increases achievement slowly initially, then once some critical amount of time has been added, extending school time increases achievement rapidly. However, at some point this rapid acceleration declines such that increasing school time no longer results in commensurate gains in achievement and may even result in a negative effect on achievement.^{32(p429)}

The final hesitation among the authors to draw definitive conclusions about the connection between expanded school time and better student performance reflects exactly the problem that the retrospective body of research spotlights—an inability to disentangle time from other educational factors. In particular, Patall et al point to instructional quality as the pivot point: “[W]e would suggest that instructional practices can be viewed as mediators of extended school time effects on students. That is, the effectiveness of instruction might determine whether extended school time has positive, negative, or no effects on student outcomes.”^{32(p430)}

A close look at one of the more careful prospective evaluations that essays to sort out the effects of more time on student outcomes—that of the Massachusetts Expanded Learning Time Initiative—highlights the complications and uncertainties inherent in the research project generally. To determine the impact of more time on the students in the 19 Initiative schools, the evaluators constructed a quasi-experimental design that compared the group of Expanded Learning Time schools to a group of like schools that did not participate in the program and, thus, operated with a more traditional schedule. (Each Expanded Learning Time school was matched individually to another school in its district with a similar demographic and achievement profile.) Using an interrupted time series analysis, the evaluation team compared achievement scores over the course of 5 years among the group of Expanded Learning Time (ELT) schools and its matched cohort. Through this methodology, which compared the 2 school groups in aggregate to each other, evaluators found no difference of significance, with the exception of fifth grade science, which showed students in the schools with more time significantly outperforming their peers in matched cohort schools.^{26(p xvii)}

Meanwhile, in their analysis of the implementation of the ELT program, evaluators confirmed that ELT schools did allocate significantly more time to core academics, as compared to the matched cohort schools. Thus, the findings on implementation and outcomes seem somewhat contradictory. What might account for the seeming disconnect between findings on implementation (more allocated learning time) and outcomes (not significantly more learning)?

Evaluators pose 3 possible reasons. First, they suggest that the process of comparing ELT schools as a group to the matched cohort in aggregate may not yield meaningful results because the matched cohort schools did, in many cases, install “ELT-like components.” Thus, the ELT schools’ advantage over the comparison group of having roughly 300 more hours on the books may have been offset by the fact that the non-ELT schools may have found other ways to increase learning time for students in tested subjects. They may have provided extra tutoring to students during non-school hours, for example and, thus, may have effectively closed the time differentials between the 2 groups, even if these did not show up in the analysis of the official school day.^{26(p139)}

The second reason relates to the flaw of seeking to determine effects in aggregate, rather than measuring effects in individual schools. When findings in changes in student proficiency rates from pre-intervention to the most recent year (2011) are reported for individual schools, for example, evaluators identify a number of schools (names are withheld) that did see large increases in proficiency rates, especially in middle grades, while there are also a number of schools with only small positive (or, in a few cases, small negative) changes in proficiency. Thus, when findings are aggregated across all schools, the sites that can claim greater positive effects on student proficiency are offset by those that have seen only smaller positive (or negative) effects.

In addition to variation in outcomes, evaluators also explain and describe the considerable variation in implementation among ELT schools. (The Massachusetts Department of Elementary and Secondary Education allows each ELT school to develop its own educational model and priorities as long as each school ostensibly provides more time for academics, enrichment, and teacher collaboration.) This variation becomes clear in the results of the evaluators’ “implementation index.” This index tries to account for the many components of schools that are not standardized, including time spent in various subjects, the adherence to and support of school goals, and the degree of teacher collaboration. Schools received a rating in each of these areas (on a scale of 0 to 3), based on the level of observed and reported intensity of implementation.

Higher scores were assigned to schools that evaluators deemed to be of higher intensity of implementation in that specific criterion. The ratings of each area were then totaled to deliver an index score for each school. On a total possible score of 24 (the composite of individual ratings in 8 separate categories), evaluators report an index range of 5 to 22 among the ELT school cohort, thus indicating a wide variation in implementation fidelity.^{26(pp39-46)}

To try to overcome the confounding effects of implementation variation, evaluators compared ELT schools to one another, based on the implementation index, to determine how these on-the-ground factors might mediate effects on outcomes. Evaluators found that those schools deemed “high implementers”—meaning the schools had a greater amount of time spent in key areas and had well-aligned goals and practices—posted achievement scores not significantly higher than “low implementers,” those schools with lower fidelity to the ELT design principles. The one exception to this finding was among the schools that had participated in the ELT initiative longest. In this case, students in high implementer schools significantly outperformed those in low implementer schools in all assessed grades and subjects. In Grade 4 reading, Grade 5 science, and Grade 8 math and science, the effect size differential between these two groups was quite strong, ranging between 0.5 to 0.7.^{26(p217)}

The evaluators suggest that the reason for the limited findings using the implementation index methodology and internal comparisons (again, except for the most veteran participants) point to the third challenge: the fundamental difficulty of measuring the degree of educational efficacy within a classroom or school. The evaluators state: “It is important to note that these results are preliminary, as although the implementation index . . . developed for this study addresses the types of activities ELT schools engaged in and the amount of time ELT schools spent on various activities, it does not measure the *quality of ELT activities*.”^{26(p131, emphasis added)}

So in due course, prospective research can suffer the very same uncertainty that retrospective research does—the problem that time quantities are highly influenced by other educational factors. Thus, a direct comparison of schools that are superficially alike, save for allotted instructional time, may not yield strong differences in student outcomes because many other undocumented (and, thus, not considered) components in a school may offset or complicate the “pure” effects of more time.

Enter the third stream of research that seeks to provide some qualitative evidence to inform the question of how expanded time plays a role in student outcomes. The emphasis of this research is not as much on why students in schools with more time might perform better than students in traditional-schedule schools but, rather, how educational practitioners perceive the ways expanded time can enhance or accelerate their capacity to strengthen student outcomes. The National Center on Time & Learning conducted one such study in 2011 that involved an examination of expanded-time schools that had already demonstrated success (as measured by performance on state assessments). The purpose of this research was, thus, not to prove that certain school components will lead to (or may be associated with) particular outcomes but, instead, to unpack the logic and mechanisms that experienced educators employ to achieve their educational goals. This study might best be characterized as “knowledge capture” or “effective practices” research.³⁴

The particular study explored a cohort of 30 schools that share 3 basic characteristics. The schools: (a) operate with an expanded-time schedule—that is, the schools meet the minimums described above; (b) serve a student body that is at least 50% low-income; and (c) post proficiency rates on state assessments that are at least 10 points higher than the average of the surrounding district. The cohort included a mix of elementary, middle, and high schools, with most schools located in urban areas. Researchers then conducted site visits to each school; these site visits included classroom observations, interviews with key stakeholders, and collection of extant data.

Findings from the research included the naming of 8 core practices that characterized much of the work of these schools, such as a demonstrated focus among staff on using time efficiently, a highly regulated system of collecting data on student performance and analyzing the results to better tailor instruction, and the deliberate cultivation of positive behaviors and attitudes among both students and teachers. Throughout the study, NCTL sought to learn how the educators' understanding of the expanded time available to them acted upon the other aspects of their school model."

The researchers determined that each of the elements were interdependent and symbiotic and, further, that expanded time opened up opportunities for specific programmatic and structural elements—in instructional settings, for teacher collaboration, and for building school culture—that would likely not have been possible to include (or, at least, to implement to their intended level) were there not a school day that was substantially longer than the norm.

The testimony from these schools, thus, lends considerable insight into the operational value of more time within the wider school structure and how particular programmatic and instructional components that appear to have an impact on educational efficacy might be included in an expanded schedule. Indeed, the practice profiles of these particular schools might help to explain why both retrospective and prospective quantitative research has uncovered an association between expanded school time and superior student performance generally: expanded time can lead not only to a greater quantity of instruction but also to more opportunities for schools to enhance such instruction through more teacher training and increased avenues for student engagement.

Yet this qualitative research, like its quantitative cousins, cannot provide all the answers we seek to the basic question of how time (and, specifically, expanded time) affects student outcomes. For one, it offers no direct comparisons to schools with more conventional instructional days (and years). It may very well be the case that traditional schools can also harness time in ways to increase educational efficacy and, thus, higher student performance may, as the quantitative research insinuates, relate more to effective *use* of time than to schools possessing certain larger quantities of daily minutes for instruction.

What the 3 strands of research trying to unearth the core question of how expanded-time schools affect student outcomes ultimately suggest, then, is that it may actually take a combination of methods to arrive at a fully satisfying explanation.

The Future Prospects for Expanded-Time Schools

The final question that the current movement toward increasing the number of expanded-time schools raises relates to the likelihood that such growth will continue. Signs of what is to come are, in fact, contradictory. Some signals point to the possibility that many more expanded-time schools will come into being, while others indicate that growth will slow and, in fact, that school time generally will begin to shrink.

The indications of continued expansion come from 3 main sources. First, the number of charter schools continues to rise. Over the last decade, the number of charter schools has increased from about 2,000 to nearly 5,000, about 5% of all schools nationwide. Charter schools now serve roughly 1.5 million students.³⁵ As described above, charter schools are structured in a way that offers the most obstacle-free route through which to expand beyond national school time norms. Not only is this course to expanded time available, it is, in a majority of cases, followed. That is, a majority of charter schools are identified as having more time

than the norm.^{2(p10)} Notably, the recent USED program known as “Race to the Top”—large grants to states to implement a wide range of state-level education reforms—encouraged states to make it easier to establish more charter schools. In all likelihood, then, with more charter schools will come more expanded-time schools.

The second source comes more directly from the federal government’s action. For one, the USED has indicated its continued investment in turning around low-performing schools. With additional funding in the pipeline available to support reform efforts and the bias for increased learning time in the current administration of that program, it is likely that more schools that have become federal grant recipients will be encouraged (or even required) to build in more time into their schedules for all students.

Another means for expanded time facilitated by the federal government might be through the so-called waiver system. In response to Congressional inaction on the re-authorization of the Elementary and Secondary Education Act—a delay which has left states in limbo as to how to apply accountability measures of the current law—the USED has developed a process through which states could apply to the Department for waivers from the current law. Tucked into the waiver provisions is a process enabling states to redirect funds that have been intended exclusively to support voluntary after-school programs (known as 21st Century Learning Centers) and remedial tutoring for low-performing students (through Supplemental Education Services) to now be able to fund as well expanded learning opportunities for an entire student body—essentially, an expanded-time school.³⁶ It remains to be seen how many states and, in turn, districts and schools take advantage of the funding flexibilities built into the waiver, but with greater funding available, there is an avenue to overcome one of the chief obstacles of creating expanded-time schools.

A final source for the establishment of more expanded-time schools is found in the efforts of individual districts to modify their minimum required daily scheduled hours upwards. Districts that have adopted this approach include Elizabeth, New Jersey and Charlotte-Mecklenburg, North Carolina. Additionally, districts like Houston and Denver have designated a certain group of schools for more time but have indicated a district-wide commitment to ensuring adequate learning time for all students.

The most ambitious and visible district-wide commitment to increase school time is taking place in Chicago. As of the 2011-2012 school year, this district—the third largest in the nation—featured one of

the shortest days among major districts at 5 hours, 45 minutes (for elementary schools) and a year of only 170 days. In a new agreement with the teachers' union, the district has now reconfigured the elementary school day to be 7 hours with a school year of 180 days, thus increasing total school time in elementary schools by almost 300 hours annually. (At the secondary school level, the district has increased the standard day from 7 hours to 7-1/2 hours and has also extended the school year by 10 days.) With over 600 schools, this would represent, by far, the largest single effort to expand time on a mass scale.³⁷

Against these forces pushing for school time expansion stand other fiscal realities that make implementation less likely. Not only have the revenues of individual cities declined so that their funding of the school department has tightened, but also states, which typically fund a good portion of local district budgets, face steep drops in revenues. In an era of shrinking budgets, the possibility of supporting a school reform that generally costs more appears more remote. Indeed, many districts are cutting back school time. As NCTL reported in 2011, several states, including Arizona, Nevada, and most significantly, California, have passed legislation that allows districts to cut days from the school year in order to furlough teachers and save money.³⁸

Ultimately, school districts everywhere are confronting dual pressures, appearing to push the prospects for creating more schools with longer days and/or years in opposite directions. On the one side, fiscal constraints make the potential increasingly slim to fund a reform that usually costs some percentage more on a per pupil basis. On the other side, accountability pressures make the possibility of building in more learning time for students—a reform strategy that is becoming increasingly standard in today's policy climate—seem all the more likely. It is difficult to know at this juncture which force will prove stronger.

Areas for Further Research

What is clear is that even if educators are able to secure the funding and policy flexibility necessary to expand the schedule for all students in their school, they will need concrete guidance on how to ensure that such expanded time is spent in ways that optimize teaching and learning opportunities. The research highlighted above has demonstrated that learning time is a key factor in student performance on an individual level, and it also suggests that, when it comes to generating increased student learning across a school, time quantity appears dependent upon instructional and programmatic quality. (Both the meta-analytical studies and individual studies, including the Massachusetts quasi-experimental

evaluation, reach this same conclusion.) That is, quantity of time is mediated by use of that time, and thus it is not possible to interpret the effects of expanded time on student outcomes without examining how schools not only allot time but also how they spend that time in individual classrooms and across the entire school year.

The contributions of qualitative research are meaningful in this regard, for this stream of investigation has demonstrated that schools with more time available are able to develop an educational program that can facilitate steps to boost teacher efficacy, suggesting a certain symbiotic relationship between the quantity of time and the quality of how it is spent.

Still missing, however, is research to pinpoint 2 major areas of inquiry. The first centers on the quantities of time that might be necessary to enable those methods intended to boost quality to take full effect. How much time, for example, is needed for teacher collaboration to make a significantly positive difference in instruction? Or to what degree do enrichment activities enhance student learning throughout the school day? Or how much time might be needed to teach the Common Core Standards? Which is more effective for generating improved student outcomes—a longer day or a longer year? And picking up on the concept of a sigmoid growth curve raised by the research, how much time is enough and how much is too much?

The second area of research that deserves more attention from scholars is how the use of time might actually be used as a metric through which to assess the quality of instruction and other educational components within a school. That is, researchers tend to focus now on the matter of how quantity of time affects quality, when, in actuality, a more fitting analysis might be to examine how the uses of time in classrooms (and across schools) are strong indicators of the relative strength of teaching practice. A teacher who spends some comparatively large portion of her class time disciplining students or in ways other than direct instruction may be less effective no matter how much time she has available. Thus, it may be incumbent on researchers to engage in sophisticated observations of classrooms to begin to tease out time use correlations with accepted measures of educational efficacy (test scores and the like). Then upon this foundation of data, researchers can more productively analyze how the *addition* of more time might lead to greater efficacy in the classroom.

Though these inquiries are, no doubt, complicated to undertake, the rising number of schools that have adopted an expanded-time schedule likely provide a large enough cohort from which researchers might collect data to begin to draw conclusions. Further, the escalating attention on

expanded learning time from both the U.S. Department of Education and other principal players on the educational landscape should spur researchers to take up this series of questions (and others) with some intensity. In fact, the Institute of Education Sciences, the research arm of the U.S. Department of Education, has put out to bid a proposal to explore this very question, so we may very well have better answers in a few years, after the completion of the yet-to-be-funded study. Given what the available research suggests about the effect more time can have on student outcomes, we owe it to the next generation of Americans to learn ever more about how time, and its productive use, can enable the education they need and deserve.

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