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ON THE CLOCK: Rethinking the Way Schools Use Time

by Elena Silva



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Independent Analysis, Innovative Ideas

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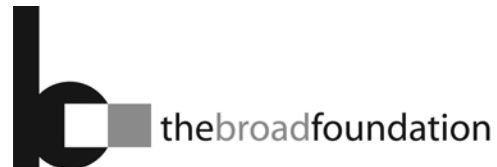
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ABOUT EDUCATION SECTOR

Education Sector is an independent education policy think tank devoted to developing innovative solutions to the nation's most pressing educational problems. We are nonprofit and nonpartisan, both a dependable source of sound thinking on policy and an honest broker of evidence in key education debates throughout the United States.

As schools across the country struggle to meet the demands of the federal No Child Left Behind Act and their state accountability systems, educators are searching for ways to raise student achievement. Increasing numbers of school and district leaders are turning to one of the most fundamental features of the public education system: the amount of time students spend in school.

The addition and improvement of the use of time was at the top of the list of recommendations in a report, *Getting Smarter, Becoming Fairer: A Progressive Education Agenda for a Stronger Nation*, issued last year by a national task force on public education comprised of political, business and education leaders.¹ States and school districts around the country are considering dozens of proposals for extending the school day and year ranging from lengthening the school day by several hours to extending the school year by days, weeks or months. Minnesota's school superintendents last year proposed increasing the school year from 175 to 200 days.² A business-led group in Delaware is proposing state funding for an additional 140 school hours a year as a part of its plan for improving the state's education system.³

Philadelphia schools chief executive Paul Vallas announced plans to extend the school year about a month to ten and a half months.⁴ Chicago's Mayor Richard Daley has called for year-round schools, while a group of Illinois legislators have proposed extending the school year throughout the state.⁵ New Mexico Governor Bill Richardson recently proposed a longer school day and year for low-performing schools, while Washington, D.C. Superintendent Clifford Janey has proposed a longer school year for low-performing schools in the nation's capital.⁶ And Massachusetts lawmakers included \$6.5 million in the state budget to support a public-private partnership to expand learning time for 10 schools in five districts.⁷

Also generating interest in extended time programs is the No Child Left Behind (NCLB) Act's requirement that states provide supplementary education services to low-income students in low-performing schools.⁸ These services, provided outside of the regular school day, are now part of a multitude of strategies to expand learning opportunities

for students during after-school hours and other "out-of-school" time.

There is little wonder why reforms have focused on school time. Students spend two-thirds of their waking hours away from school, and along with money, time is perhaps the most readily measured and easily understood resource in schools.⁹

The logic of time reform is simple—more time in school should result in more learning and better student performance. But this seemingly straightforward calculation is more complex than it appears. Research reveals a complicated relationship between time and learning and suggests that improving the quality of instructional time is at least as important as increasing the quantity of time in school. It also suggests that the addition of high-quality teaching time is of particular benefit to certain groups of students, such as low-income students and others who have little opportunity for learning outside of school.

What's more, the politics and cost of extending time make the reform a tough sell. Additional days and hours are expensive, and changing the school schedule affects not only students and teachers, but parents, employers and a wide range of industries that are dependent on the traditional school day and year. It is critical that policymakers understand the educational and political complexities of time reform before they attempt to extend the school year or take up other time-reform initiatives.

This report examines both the educational and political dimensions of time reform. It presents the findings of a wide range of research on time reform, discusses the impact of various time reforms on the life of schools and beyond, and makes recommendations for policymakers about how to best leverage time in and out of school to improve student achievement.

6.5 Hours, 180 Days

Time in school has been added and subtracted in many ways throughout our country's history, although not always for obvious reasons. School schedules varied considerably by locality early in our country's history with some schools open nearly year round and others open only intermittently.

In large cities, long school calendars were not uncommon during the 19th century. In 1840, the school systems in Buffalo, Detroit, and Philadelphia were open between 251 and 260 days of the year.¹⁰ New York City schools were open nearly year round during that period, with only a three-week break in August. This break was gradually extended, mostly as a result of an emerging elite class of families who sought to escape the oppressive summer heat of the city and who advocated that children needed to “rest their minds.” By 1889, many cities had moved to observe the two-month summer holiday of July and August.¹¹

Rural communities generally had the shortest calendars, designed to allow children to assist with family farm work, but they began to extend their school hours and calendars as the urban schools shortened theirs. By 1900, the nation's schools were open an average of 144 days, but, with many youth in the workforce and few compulsory attendance laws for school, students attended an average of only 99 of those days.¹²

School schedules underwent more adjustment during the 20th century to accommodate a changing population and the needs of war. Summer sessions were provided in some communities to teach English to immigrant students or to provide accelerated programs to allow students to graduate early, but most programs were used to manage a growing youth population and prepare a workforce. The first extended-day schools came into being during World War II to provide care for the school-aged children of women pressed into work.

By the 1960s, most schools in the country had settled on a schedule of 170–180 days, five days a week, six and a half hours a day. This has remained the standard in American public schools since then: a 2004 survey by the Council of Chief State School Officers found that 35 states require the school year to be 180 days or longer, and six require between 175 and 179 days; the same

survey found 34 states require five or more instructional hours per day (or no less than 900 hours per year).¹³

But today, as educators face unprecedented pressures to raise student achievement, the standard school day and school year are being reconsidered nationwide. Today's time reform efforts are primarily focused on increasing the absolute number of instructional hours by extending the school day and/or year, as the proposals in New Mexico, Washington, D.C., and many other states and cities suggest.¹⁴

What the Research Shows

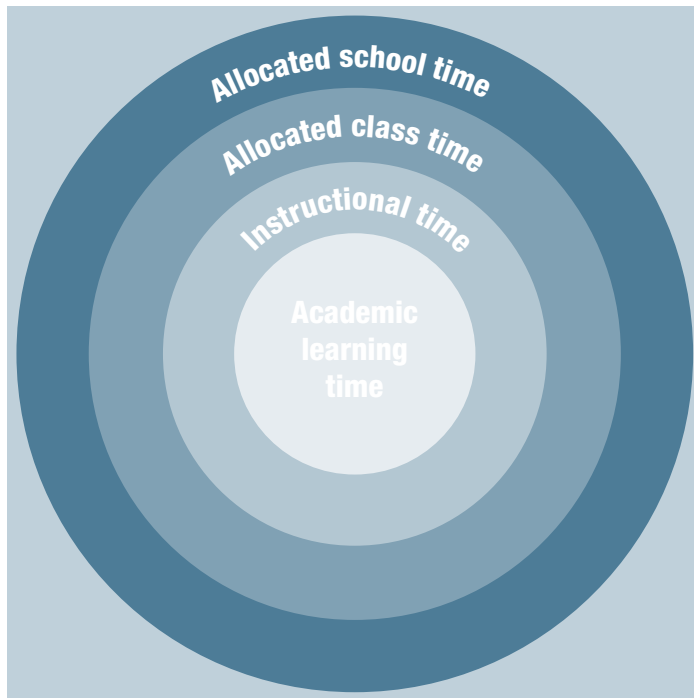
Types of Time

Most schools that have extended time have not done so in isolation, but as part of a larger reform effort. So it is difficult to isolate the effects of extending the school day or school year on student achievement. There has never been a controlled or longitudinal experiment that specifically measures the effect of extending time on student learning. But past studies on time and learning offer some insight.

Not all time in school is equal because not all school and classroom time is devoted to formal instruction or learning. Time is spent on lunch, assemblies, walking between classes, announcements, and the many other things that go on in school. One can think of school time as being comprised of four different “types” of time, as shown in Figure 1. The largest is *allocated school time*, followed by *allocated class time*, *instructional time*, and *academic learning time*. Allocated school time and allocated class time are the hours that students are required to be in school and class, but include recess, announcements, and the other non-instructional activities. Instructional time is the time devoted to formal instruction or learning, although much of that time may be lost to poor quality teaching and student inattention. Academic learning time is the time in which students are actually engaged in learning.

While the distinctions may seem obvious, they are important because they make clear why any extended-time proposal must focus on providing the right kind of time, i.e., instructional time and academic learning time, rather than just adding hours in general. As would be expected, the research shows that the correlation between time and student achievement gets stronger

Figure 1. Types of School Time



Note: Allocated School Time=Total time in school; Allocated Class Time=Total time in class; Instructional Time=Time devoted to instruction; Academic Learning Time=Time students gain and retain subject knowledge.

with more engaged time. Students who are given more *allocated school time* have outcomes only slightly better than students who receive less. But the correlation between time and achievement increases when students are given more *instructional time*, and it is even greater when students' *academic learning time* increases.

The distinctions between these different types of school time were made by researchers examining *The Beginning Teacher Evaluation Study* (BTES), a federally commissioned education study of teacher behaviors and competencies and carried out in three phases during the 1970s.¹⁵ BTES project directors Charles Fisher and David Berliner found that student achievement was most highly associated with instruction that engaged students and was aligned with students' abilities and preparedness.

Additional research over the last 25 years has supported those findings. Nancy Karweit and Robert Slavin, in their 1981 study, *Measurement and Modeling Choices in Studies of Time and Learning* used similar terminology, differentiating between scheduled time (the number of minutes per week supplied for math instruction),

instructional time (scheduled time minus time lost to intrusion, procedure and inattention), and engaged time (similar to academic learning time).¹⁶ Tracking students in 18 math classes in four elementary schools using pre- and post-test scores on the Comprehensive Test of Basic Skills (CTBS), they found that increased engaged time positively affected CTBS post-test scores, but increased scheduled time and instructional time had no effect on post-test scores.

Kathleen Cotton, while a researcher at the Northwest Regional Educational Laboratory in Oregon, conducted one of the most comprehensive reviews of time-in-school research in 1989. Analyzing 57 studies on the relationship between time and learning, Cotton identified 30 studies that measured the relationship between allocated time and student outcomes. Cotton found a strong positive relationship between academic learning time and student achievement in one subset of 11 studies that examined the effects of academic learning time. However, she found no statistically significant relationship between allocated time and student achievement.¹⁷

A decade later in 1998, researchers from WestEd, a nonprofit research firm and one of the regional educational laboratories of the U.S. Department of Education, came to the same conclusion. In reviewing all available research on time and learning, Julie Aronson, Joy Zimmerman, and Lisa Carlos concluded that there is little or no relationship between allocated time and student achievement, some relationship between instructional time and achievement, and a larger relationship between academic learning time and achievement.¹⁸ "Any addition to allocated education time," the authors write, "will only improve achievement" if it is used for instructional time that is used effectively enough to engage students.¹⁹

According to BetsAnn Smith, who authored a report on a time-use study by the Consortium on Chicago School Research, a great deal of classroom time is lost to start-up routines, unnecessary interruptions, test preparation and poor classroom management. A typical school day in Chicago's public schools delivered fewer than 240 minutes of total instruction each day, far short of the 300 minutes of daily instruction mandated by the state, Smith found.²⁰

Similarly, Fisher in his analysis of the *Beginning Teacher Evaluation Study* found that students were getting a mere four to 52 minutes a day of actual academic learning time

in a given subject. Fisher and his colleagues commented on this unusually large variation of time:

It is easy to imagine how either four or 52 minutes per day of Academic Learning Time might come about. If 50 minutes of reading instruction per day is allocated to a student who pays attention about a third of the time, and one-fourth of the student's reading time is at a high level of success, the student will experience only about four minutes of engaged reading at a high success level.²¹

Clearly, any extended time proposals must focus on expanding the right kind of time—time when students are engaged in productive learning. Adding more hours would ostensibly provide more time for everything that occurs in schools, and in the best schools there would be an ample increase in academic learning time. But in poorly managed schools with inexperienced teachers and a host of other challenges, it is likely that more time would be lost to other activities.

“Schools that have strong leadership and are already on a trajectory of school improvement are most capable of making use of extended time in ways that will support student learning,” says Jennifer Davis, president of Massachusetts 2020, a nonprofit organization leading the movement to extend school time in Massachusetts. In a 2005 study of eight successful extended-time schools, *Time for a Change: The Promise of Extended Time Schools for Promoting Student Achievement*, the organization found that extended time was an essential part of the schools' success, but other factors were also important, including strong leaders, excellent teachers, high student expectations, careful monitoring of performance, and a safe, supportive, and nurturing school environment. In other words, time was not an add-on in the schools, but part of a larger, coherent reform plan.²²

In *Rethinking School Resources*, a report by New American Schools, author Karen Hawley Miles says that schools need to rethink the way they use all their resources, including time.²³ Time is a valuable commodity for teachers as well as students, and Miles argues in favor of using it to provide opportunities for teachers to work together and support their professional development. Miles says that schools should look at providing time for individualized attention to students and for more academic time in longer blocks (see sidebar on block scheduling).

Block Scheduling

Schools across the country have adopted “block scheduling” as a way to increase the amount of instructional time spent on a particular subject, as well as to provide more time for focused and engaged learning. Block scheduling divides the instructional day into longer and fewer periods than traditional scheduling, usually four periods of 80–100 minutes. Subjects are alternated by day or semester so that all core academic classes get extended periods of instructional time. It is not surprising that schools are initiating block scheduling given the accountability that educators now face for students' performance.

Longer blocks of instruction have been shown to increase student learning, particularly for low-performing students. In San Diego, for example, an evaluation of the district's Blueprint for Student Success program found that double- and triple-length reading classes, also known as “literacy blocks,” boosted the achievement of low-performing elementary school students enough to narrow school achievement gaps by about 15 percent over two years.*

The success of block scheduling, however, depends on how well the time is used. Research on block scheduling over the past two decades shows how important it is to train teachers on effective instructional strategies for longer class periods.† Without such training, teachers commonly plan for 50–60 minutes of instruction and lack strategies for using the additional 30 minutes of class time effectively.

Some educators and parents are concerned that block scheduling may result in a narrowed curriculum because the longer reading and math blocks may reduce time for subjects such as social studies and the arts and result in the reduction or elimination of recess and physical education.‡ Schools are trying to find ways to increase time for reading and mathematics without sacrificing other subjects and enrichment classes.

*Public Policy Institute of California, “Research Brief: The Success of San Diego School Reforms Could Serve as a Blueprint for the State,” October 2005.

†J. Allen Queen, “Block Scheduling Revisited,” *Phi Delta Kappan*, November 2000.

‡Craig Jerald, *Issue Brief: The Hidden Costs of Curriculum Narrowing*, (Washington, D.C.: Center for CSRI, August 2006).

International Comparisons

One reason policymakers are looking at extending time in school is the perception that students in other countries outperform U.S. students because they have longer school years. The 1983 publication *A Nation at Risk*, issued by the federally funded National Commission on Education Excellence, compared the typical U.S. school year of 180 days to the longer school calendars in Europe (190 to 210 days) and Japan (240 days) and raised concerns that U.S. students were lagging behind their European and Asian counterparts on international assessments. It recommended extending the school day to seven hours,

lengthening the school year to between 200 and 220 days, and establishing 11-month contracts for teachers.²⁴

Recent international test results show U.S. students are still lagging behind, but the relationship between test scores and the amount of time spent in school is not as simple as it might appear.

The 2003 *Trends in International Mathematics and Science Study* (TIMSS), which measured student achievement in mathematics and science in grades four and eight, revealed that students in a number of nations scored above the U.S. on at least one of the four TIMSS tests. Students in Chinese Taipei, Japan, and Singapore far outperformed U.S. students on every test.²⁵ U.S. students also perform poorly on the Organization for Economic Cooperation and Development (OECD) Programme for International Student Assessment (PISA), which tests the mathematics proficiency of 15-year-olds in 40 nations. The average score for U.S. students on the 2003 test was lower than the scores of students in 20 other countries, including Japan (Chinese Taipei and Singapore do not participate in PISA) and measurably higher than those of only five countries (Portugal, Italy, Greece, Mexico and Turkey).²⁶

In a recent study of PISA 2003 data, researcher Timothy DeRoche found that students in the U.S. receive 10 percent fewer instructional hours per year than students in other OECD nations.²⁷ But it is unclear how the number of instructional hours affects achievement and learning. Japan offers more instructional time than the U.S. (See Table 1) and consistently outscores the U.S. on international assessments, but four of the five nations that scored below the United States on PISA 2003 also offer more instructional time than the U.S.²⁸

DeRoche found a strong correlation between increased instructional time and higher scores on the PISA math test. He predicts that the U.S. could become one of the top-performing countries in math by adding approximately 180 hours of instructional time per year. But when David Baker, a professor of education and sociology at Penn State University studied the effects of time in countries participating in both PISA and TIMSS, he found either a weak positive relationship or no statistically significant relationship between more time and improved scores.²⁹

There are so many variables that affect the quality of time that international comparisons are difficult no matter how

Table 1. International Rankings and Instructional Hours per Year

PISA - Math Ranking (of 29)	Country	Instructional Hours per Year
1	Finland	861
2	Korea	1079
3	Netherlands	911
4	Japan	926
24	United States	799
25	Portugal	889
26	Italy	884
27	Greece	806
28	Turkey	825

Source: Education Sector analysis of OECD data.

Note: Instructional hours per year refers to the number of hours that students participate in a school-based education program, including core subjects, elective subjects and other undefined elements of the school curriculum. It does not include homework, individual tutoring or other study before or after school.

one looks at them. Teaching practices, student culture and curricula, and general educational philosophy vary considerably from one country to the next and often change over time. Japan, for example, whose lengthy school schedule and rigorous academic approach is often lauded as a model for high achievement, proposed a revised “relaxed education” policy to ease student workload and create more well-rounded students.³⁰

Extended Time for All or Some?

Extending and improving the use of instructional time could undoubtedly benefit all students. But studies suggest that extended time may matter more for some students than others. Poor and minority students are less likely than their more affluent peers to have educational resources outside of school and therefore may benefit more from increased school time.

Evidence from the *Beginning School Study* (BSS), a longitudinal study begun in 1982 by sociologists Doris Entwisle and Karl Alexander, shows that lower-income children lose ground to higher-income children over time because of what researchers call summer learning loss.³¹ Children in middle-class and affluent families, researchers explain, continue to experience learning opportunities while

they are out of school in the summer, but children from low-income families do not have the same opportunities and make virtually no learning gains during time off. Their “faucet theory” postulates that school provides a steady flow of learning opportunity for all children during the school year; the flow stops for low-income children when school is out, but continues for higher-income students who are provided learning opportunities elsewhere. Higher-income children in effect are getting more educational time through informal out-of-school summer opportunities. Therefore, differences in family background will inevitably lead to unequal gains for students unless other sources of learning are provided to make up for the summer deficit.

Harris Cooper, a professor of education at Duke University, and his colleagues closely examined the effect of summer break on student learning by analyzing the findings of 39 research studies.³² He found that summer learning loss was the equivalent of about one month of learning for a typical student over a standard summer vacation. Cooper and his colleagues determined that the effects of summer learning loss over time had a particularly detrimental effect on low-income students and ultimately increased gaps between middle class and poorer students. The cumulative effect of summer learning loss is illustrated in Figure 2.³³

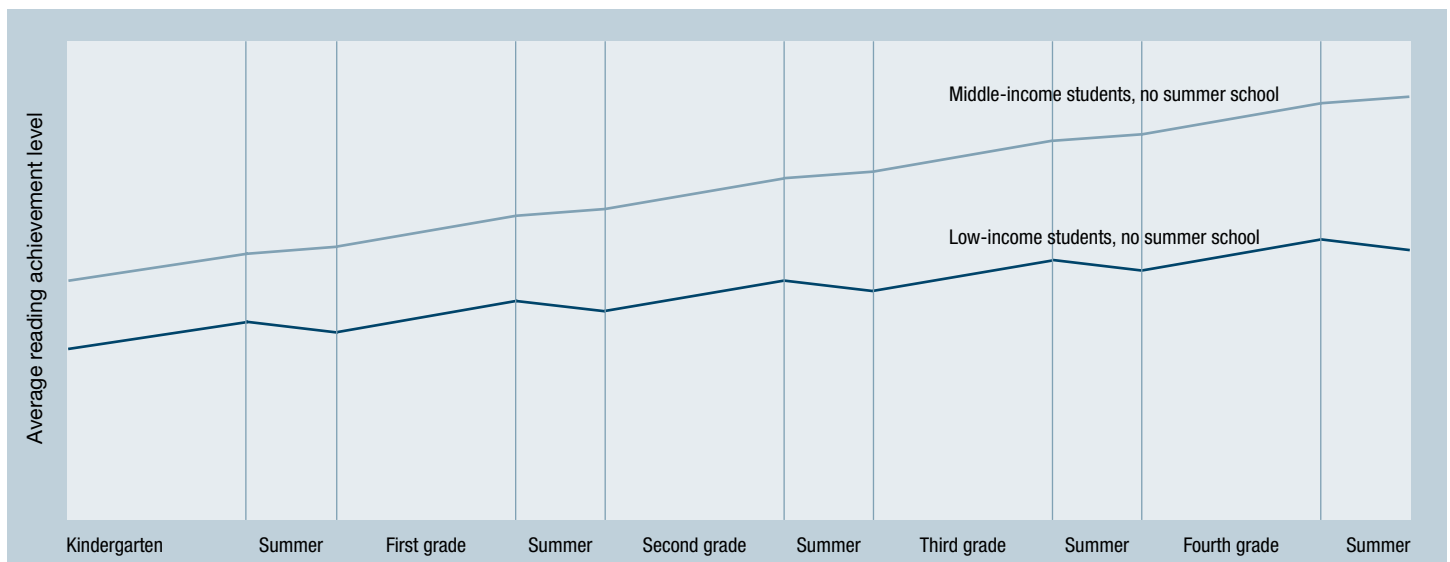
Year-round school designs, which are also being looked at in time reform efforts, may reduce the negative effects

of summer learning loss by eliminating the long summer vacation, but such proposals do not always target the students most in need of increased learning time. They also do not usually increase the absolute number of hours of school, but instead reorganize school schedules throughout the year, often to accommodate more students in the same facility. (See sidebar on year-round schools.)

Increasing in-school time and providing out-of-school programs for the neediest students seem to help address the problems of summer learning loss and achievement gaps. Education organizations such as the Knowledge Is Power Program (KIPP) and Edison Schools, Inc. are examples of entities that extend in-school time. Students in KIPP, a network of public schools—mostly charters—in low-income communities, spend at least 50 percent more time in school than their peers attending regular public schools and show strong academic gains; KIPP lists “more time” as one of its five operating principles. A recent evaluation of KIPP schools in California credited KIPP’s longer hours for its success, but also attributed it to other factors, including a strong culture of academic achievement, rigorous classes, and strict discipline.³⁴

Edison, a for-profit school management company which also serves mostly low-income students in about 100 schools, serves as an example of the importance of considering the strategy for increasing school time. When Edison began 15 years ago, its schools were designed with

Figure 2. Accumulated Effects of Summer Learning Loss



Source: Center for Summer Learning, Johns Hopkins University.

a longer school day (1–2 hours more a day) and a longer school year (two additional weeks at the start of school and two additional weeks into the summer). But according to John Chubb, the company’s chief education officer, schools

Year-Round Schools

Many people think that year-round schooling is synonymous with lengthening the school year. It isn’t. Most year-round schools are open more days per year than traditional schools, but the students in them don’t necessarily attend more days of school. Rather, schools distribute the traditional 180-day school schedule across 12 months. Often, schools do this so that they can educate more students—on staggered, year-round schedules—and thereby save school systems the cost of building more schools to educate students on traditional 180-day school calendars.

According to a 2005 report by the Council of Chief State School Officers, 37 states reported at least one district with year-round schools (which are also called modified calendars or balanced calendars), a 28 percent increase from 1995 when 29 states reported year-round operations.* Nationally, 7 percent of all traditional public schools now use a year-round schedule and 12 percent of charter schools operate year round.†

Multi-track year-round schools—which divide students into multiple, often overlapping shifts—is a popular form, particularly in states with fast-growing populations. California, for example, saw a big increase in year-round schools in the 1990s because of a booming population of school-aged children.‡ Because the goal of many year-round-schooling proposals is to reduce costs, they have more in common with recent, cost-cutting proposals to reduce the school week from five days to four than proposals to increase school time.

Yet some year-round school designs, including most charter school models, are designed to reduce the gaps in learning that occur over summer and winter breaks. A schedule that is gaining in popularity offers nine weeks of instruction followed by three-week breaks throughout the year, with some schools offering voluntary “intersession” programs during the breaks for students who want to catch up or get ahead. Charlie Kyte, Executive Director of the Minnesota Association of School Administrators, says he hopes that legislation in the next year will advance this modified calendar design in Minnesota to improve opportunities for low-income students. “It’s a step,” he says, conceding that a 200-day year proposed in the state last year was “too big a change, too quick for Minnesotans.”§

*Lori Cavell, et al. *Key State Education Policies on PK–12 Education: 2004* (Council of Chief State School Officers, Washington, D.C., 2005).

†G. A. Strizek, et al. *Characteristics of schools, districts, teachers, principals, and school libraries in the United States: 2003–04 schools and staffing survey*. (Washington, D.C.: U.S. Department of Education, National Center for Education Statistics, 2006).

‡Ben Wildavsky. *Scholars of Summer: More Schools Shuffling the Traditional Calendar*. (US News and World Report. August 1999).

§Personal communication with Charlie Kyte, Sept. 25, 2006.

encountered increased student absenteeism during the additional weeks of school, which negated the effect of the longer year.³⁵ In addition, teachers were unhappy with the extra weeks of school. As a result, Edison determined the additional four weeks of school were not worth the cost and now relies on an extended-day schedule to provide added time for learning. For example, Lincoln Edison Elementary, like many of the other K–5 Edison schools in Clark County, Nev., is open from 8:00 a.m. until 3:30 p.m., which is an hour and a half longer than other district K–5 schools.

A recent evaluation of Edison by the RAND Corporation found generally positive outcomes in its schools, but not across the board and only after several years of operation.³⁶ Still, Edison remains committed to extending time in the school day, which Chubb calls “an unambiguously good thing.”

Summer programs also target students who could benefit from additional school time, but should focus on core academic skills and engaging parents and the community to improve attendance, suggests a 2006 Urban Institute evaluation of a Baltimore-based summer learning program.³⁷ Many traditional summer programs provide only remedial, intermittent support to students and suffer from low academic expectations, limited advanced planning, teacher fatigue, discontinuity between the summer curriculum and the regular-school-year curriculum, a lack of emphasis on core academic skills, and poor attendance among older students.³⁸

Researchers from the Mid-Continental Regional Education Laboratory in 2004 examined all available research and evaluation studies on out-of-school time, including summer programs, dating back to 1984. The evaluation found a statistically significant positive effect for out-of-school time on achievement in both reading and mathematics.³⁹ It also found that out-of-school time was not more or less effective whether it was delivered after school, in the summer, or on weekends.

Costs and Complications of Extending Time

Some strategies for extending time for learning have proved to be more beneficial than others, but all have attendant costs and complications. The financial

investment needed to extend time is undeniably high and has thwarted many efforts. Most calculations suggest that a 10 percent increase in time would require a 6 to 7 percent increase in cost. The recent Massachusetts plan, which increased school time by 30 percent in its first year, required an additional 20 percent in base funding, or an average of \$1,300 extra per student.

Cost calculations are based largely on increased school staffing, but often do not consider other costs such as those for additional building maintenance; electricity, telephone and other utilities; transportation; supplementary curricular materials; or for upgrading or modifying school facilities, many of which do not have appropriate lighting for early or late hours or air conditioning for summer months. These costs are harder to estimate, but are sure to raise the price of extending time.

The recent proposal by Minnesota school superintendents to extend the school year by 25 days (from 175 to 200) was estimated to cost \$750 million dollars, which the superintendents determined was not feasible, either financially or politically.

But not all proposals are as expensive. Extending the school year, for example, is generally more costly than extending the school day. Keeping a school open for an extra hour or two will not generate any major new costs for transportation, building maintenance and utilities. Staff costs, too, are cheaper if hours rather than whole days are added. This was the lesson of the Edison schools, which found that extending the day offered more time for student learning, and for teacher professional development and planning, without imposing prohibitive extra costs.

The extended-school model of KIPP receives most of its funding from state and local per pupil expenditures, but it also relies on other sources of funding to cover the costs of additional school time. The need varies depending on the location of the schools. California, for example, is proving to be a difficult place to operate KIPP schools because low state per pupil funding simply cannot cover the costs of higher teacher salaries and expensive real estate, and budgeted expenses per pupil often exceed the amount allocated. KIPP teachers typically make 20 percent more than traditional public school teachers for the extra time. To cover these costs, KIPP relies on fundraising at the school and national level, from car washes to private foundation support and federal appropriations.⁴⁰

Another challenge is wide-ranging effects of changing school schedules.⁴¹ Altering school schedules impinges on more than students and teachers. The strongest opposition to extending school into the summer or throughout the year comes from middle-class and affluent parents who see no real benefit for their own children for giving up the vacation schedule they have come to expect.⁴² Also, entire industries—transportation, child care, food service—have been designed to align with current school schedules. Tourism and camping industries vigorously oppose school-time reform proposals, predicting financial losses if summer vacation is reduced. Resort and restaurant owners worry that more school in summer will mean fewer young people to hire for their businesses. And states and districts that rely on summer tourism for revenue are also wary of shorter summers. As a result, many states have proposed legislation to mandate that school start dates are no earlier than the week before Labor Day.⁴³ Virginia districts must apply for waivers from the state school board to start school before Labor Day, a start date set by a state policy now known as the “Kings Dominion law,” named after the popular theme park in the state that backed the 1986 legislation that keeps families vacationing through August and early September.⁴⁴

On the other hand, extending the school day could be a boon to working parents who struggle to find affordable, safe, quality child care that aligns with their work hours. For working parents, particularly single parents and parents working jobs with little to no time flexibility, longer school hours translate into structured, dependable child care that also offers added learning.

Recent opinion polls show the public is almost evenly divided about extending school time, with 48 percent in favor and 49 percent opposed.⁴⁵ When asked if they would favor a one-hour extension of the school day, 67 percent of those polled said yes. Only 37 percent of respondents answered that question affirmatively in 1982; 42 percent agreed in 1984. The increase may indicate a growing public concern for student learning, but it is just as likely to be a result of the needs of a changing workforce in need of additional child care.

Moreover, a 2003 national poll of registered voters conducted by the Afterschool Alliance, a network of advocacy groups seeking more resources for after-school programs, found overwhelming public support for the expansion of after-school programs, with nine in

10 respondents agreeing that after-school programs are important.⁴⁶ More than half of respondents (52 percent) said they were willing to increase their own state taxes by \$100 annually to pay for every child to attend an after-school program.

A recent poll by Public Agenda, a nonprofit research organization, on out-of-school time provides additional insights into opinions about extending time.⁴⁷ More than one out of four students (28 percent) said they would welcome an after-school program that focuses on academics, and 56 percent said they would be interested in summer programs that would help them keep up with schoolwork and prepare them for the next grade. The majority of parents polled indicated that they were concerned with finding summer opportunities for learning, and low-income and minority parents were especially concerned about finding affordable, quality activities for their children during out-of-school time.

Low-income and minority parents were also more likely than other parents to favor more “time on task” during the school day and to seek programs that emphasize academic learning. These findings suggest that public resistance to extending learning time may lie with more affluent parents. And based on these findings, extended-time programs targeted at low-income and minority students likely would face little resistance from parents.

Teachers’ schedules are another important piece of any extended-time puzzle. Teachers unions want to ensure that their members will be fully compensated for extra time and that extended time schedules are voluntary.⁴⁸ Although many teachers seem to support extended time for additional money, others see an extended work schedule as a real burden.⁴⁹ Many teachers choose the profession because it offers a schedule that works for the rest of their lives. Teachers not only value afternoon hours and summer months to spend with and care for their own children, but also rely on this time to take professional-development courses.⁵⁰

A 1989 Phi Delta Kappa poll found that most teachers (63 percent) opposed an increase to the school year, even if salaries were raised accordingly.⁵¹ But qualitative research on teachers’ attitudes in California, where time was extended in the late 1990s, revealed less opposition. Teachers reported being happy with the additional pay that extended time provided, as well as the additional

planning time it afforded.⁵² Still, there is a concern that teachers, as well as principals and other school leaders, will burn-out from longer hours and extra days required by extended time proposals.

What Matters Most

John Hodge Jones, the former chair of the National Education Commission on Time and Learning and a former school superintendent, proclaimed that real education reform would not be possible until we have “revolutionized” the school day and year.⁵³ Jones is right that time is a potentially important element of school improvement. Certainly, the current emphasis on accountability and assessment makes the effective management of school time more important than ever.

But education reform, certainly reform that is *revolutionary*, cannot be boiled down to just the minutes, hours and weeks of the school calendar. Schools, say WestEd’s Aronson, Zimmerman, and Carlos, must set high standards while gearing curriculum and instruction to students’ skill levels, and engage students “so they will return day after day and build on what they have learned.” They write:

What matters most are those catalytic moments when students are absorbed in instructional activities that are adequately challenging, yet allow them to experience success.... Only when time is used more effectively will adding more of it begin to result in improved learning outcomes.⁵⁴

Time’s potential as a reform depends largely on whether the time is used effectively and on its use as a resource to serve students most in need of extra learning opportunities, both inside and outside of school. Research shows that extending the right kind of time to the students who need it most can improve student learning and effectively close achievement gaps between poor and minority students and their more affluent peers. It can also enhance the rigor and relevance of a school’s curriculum by providing more time for core academic subjects without sacrificing other subjects. And it can improve teaching by providing opportunities for teacher planning, collaboration and professional development. But the preponderance of evidence on extending time in schools suggests that the benefits of adding time to the school day or year are by no means certain or universal.

RECOMMENDATIONS

To make the best use of time as a school reform, policymakers should:

Collect and Use Data on School Time

In order for time to be effectively leveraged as a school improvement strategy, educators and policymakers must understand what is happening in schools today. Toward this end, the collection and analysis of time-use data in schools must be improved. As a nation, we have yet to pay attention to the use of school time in any systematic way and therefore lack a deep understanding of what's happening in our schools and classrooms. Data should be used to answer questions such as:

- How is time in school currently spent?
- How much time is spent on academic instruction in a given school day and in a given class period?
- How well are teachers able to cover the curriculum within existing time constraints?
- Do problems stem from ineffective teaching or poor curriculum coverage relative to state standards?
- How much time is lost to poor classroom management or “dead time,” when students are dozing or waiting for instruction?
- Are events, field trips and testing schedules aligned to complement the curriculum?
- And do teachers and students feel that they have enough time for learning and, if not, what do they want more time for?

These are questions to be addressed at the national and local levels. On the national level, there is little reason to delay more and deeper analyses of time-use in schools. Existing federal surveys already collect useful and relevant data, most notably the Schools and Staffing Survey (SASS) and its supplement, the Teacher Follow-up Survey (TFS), conducted every four years since 1987 by the U.S. Department of Education's data collection unit, the National Center for Education Statistics. SASS and TFS provide a massive amount of nationally representative data on multiple dimensions of schools and teachers, including a wide range of information about how teacher's time is spent at school, working outside of school, planning during the school day, and teaching core subjects. As one of the largest sample studies in

the nation, involving more than 50,000 teachers, 12,000 administrators and 4,500 districts from around the country, SASS provides one of the best and most cost-effective means for obtaining and analyzing data about what's currently happening inside schools and classrooms around the United States. Yet there have been very few studies that have used these data to explore the efficacy of instructional strategies, and there have been no regular reports examining time-related data.⁵⁵

The High School Survey of Student Engagement (HSSSE), an off-shoot of the National Survey of Student Engagement for college students that was first administered in 2004, is another potential boon for data collection on school and classroom practices. “Hessie,” as it is called, is designed to examine student attitudes about their school experience. Participation is likely to grow (in 2004 it reached students in a little more than 100 schools in 26 states).⁵⁶ The addition of time-use questions to this survey would provide data on the student perspective of how time is used in schools, complementing the school-, teacher- and administrator-level data of SASS.

While the U.S. Department of Education can and should provide a national portrait of how time is spent in school, it is equally important for states, districts and schools to track how students and teachers are spending their time in school in more finely grained ways. Student assessment data now provide new opportunities to measure student achievement and progress in relation to the use of time. While it is difficult to isolate the effects of time and harder still to know the nature of the teaching and learning interactions that occur in a classroom, it is critical that teachers and schools pay attention to assessment results to determine if students are performing poorly because there is not enough time to teach content or because content is not being taught well. There are straightforward strategies that can help determine if time really is the most important factor for student achievement. For example:

- At the school and district level, data on the amount of time allocated for instruction can be tracked along with student assessment results and the proportion of time spent on non-instructional activities. This would help administrators better understand how time is used and how effectively it is used. Looking at the amount of time provided for Algebra I instruction, for example, and the results of corresponding

math assessments would, at the very least, give schools and districts baseline information on how well schools are using time.

- At the classroom level, teachers can keep detailed records of what actually occurs in their classrooms. Through the use of time diaries, teachers log what they teach, how much time they spend teaching it and the instructional methods used to deliver it. This allows them to then use student assessment data to determine the effectiveness of their lessons and methods, and pinpoint holes in content. When compared with assessment results and the strengths and weaknesses of the instructional program they reveal, this data offers powerful analytic leverage to educators.

Schools and districts can compile these analyses in order to determine weaknesses in curricula, to align curricula with assessments, and to design professional development that reflects the real needs of teachers. It can also help district and school administrators determine whether low student performance is a problem best solved by adding time or by improving teaching.

Adding time to classes taught by well-trained teachers who understand what level and type of instruction students need is likely to increase student learning. However, for schools that demonstrate poor quality teaching, rote instructional methods, and a curriculum that is poorly aligned with state and district standards and assessments, adding time may not be the first or best priority for reform.

Focus on Context

Like many educational reforms, the value and success of time reform in any district or community depends greatly on context. What will succeed in one school may fail in another, and what is needed in one district may be unnecessary or even unwelcome in another. With this in mind, the best extended-time reforms will not be national or universal programs, although they will share some common characteristics. The most cost-effective and worthwhile time reforms will target low-income students who are most in need of extra learning. As research indicates, these students will benefit more from added learning opportunities than their wealthier peers and their parents appear more likely to support more time in school.

Moreover, NCLB presents new opportunities to design and fund quality extended-learning programs for these students, as schools receiving Title I funds are encouraged under the law to increase learning time through extended-day, extended-year and summer programs. These funds can be used to coordinate extended-time programs, engage parents in the process, or pay teacher salaries.

Unfortunately, many of the neediest students in our nation are also in the worst schools with the most limited potential to realize effective reform. These are the schools with low student engagement and high absenteeism, where many students are loathe to stay for six hours, much less eight. Extending time in these schools will ensure longer periods of supervised care for children but, absent quality teaching and curricula, more time in these schools will not provide better learning. Policymakers must therefore determine which schools serving low-income students are also poised to successfully carry out this level of reform. Weighing need against capacity can be difficult, but there are several indicators of school readiness that policymakers can look for to help determine a school's capacity to implement extended-time reform:

- Strong leadership with a vision for school improvement;
- Plans for and demonstrated progress toward change;
- A committed and well-trained staff of teachers;
- A clear and shared set of goals that center on student learning;
- A safe and supportive teaching and learning environment for students and teachers; and
- Support for reform from parents and the broader community.

Massachusetts 2020 President Jennifer Davis explains that not all schools are prepared to embark on time reform. States and districts looking to extend time for the neediest students in some of the lowest performing schools, then, should be prepared to assess school capacity. There are a couple of ways to approach this task. In Massachusetts, a statewide competitive grant process ensured the selection of schools and districts with high-need populations and a demonstrated commitment to and capacity for change. States could

also directly identify Title I schools that have been labeled in need of improvement under NCLB and that have demonstrated plans for and/or progress toward change on school improvement plans. Both options require strong and carefully crafted evaluation components to measure the impact of added time on student performance.

Pay Attention to Existing Programs

Outside of school-based reform, extending learning time is not a new idea. The federal government spends more than \$1 billion a year on out-of-school, after-school, and expanded learning opportunities. Most of this funding goes to the 21st Century Community Learning Centers initiative, designed to provide expanded “academic enrichment opportunities” for children in low-performing schools through a wide range of services including tutoring, youth development, drug and violence prevention, music and recreation, and technology activities. The 21st Century initiative is now administered at the state level and has increased its emphasis on the academic content and rigor of the after-school programs it supports. This has enabled schools to use some of these funds to support longer school days or other in-school extended time programs. While most schools use these grant funds to fund optional after-school programs, some schools are finding more creative ways to integrate these funds into the school budget to support extended school time focused on academic learning.⁵⁷

Supplemental educational services (SES) funds are also being used to extend learning programs for low-income students. Under Title I of NCLB, schools that are designated as “in need of improvement” for three years or more are required to offer SES to students through tutoring, remediation or other educational intervention. The providers of these educational services, as well as the types of services themselves, are many and varied. They include for-profit and nonprofit groups, community-based

and national organizations, colleges and universities, and public schools that are not in need of improvement. But state agencies may not have a thorough grasp of the wide range of supplemental services available and what type of “extended learning” is being provided to students, although they are responsible for approving and monitoring the effectiveness of service providers and their programs. Nor is there a clear sense of how these services are connected to or aligned with other state and local after-school and other out-of-school learning programs. Further, the quality of these services varies dramatically.

With students spending most of their waking hours outside of school, attention to out-of-school learning is imperative. Indeed, there is little reason to argue that schools should be the sole provider of learning opportunities. Many of the organizations that operate extended learning programs have long histories of engaging community youth in activities after school, on the weekends and over summer and winter vacations. Thus, before embarking on new ways to extend learning time within schools, policymakers should pay careful attention to existing programs, many of which take place on school property and are difficult to distinguish from “new” proposals to increase school-based time.

As a whole, policymakers would be wise to pay attention to how 21st Century and SES funds are being used in their states and communities, and to take a close look at how much of their state budgets are already allocated to extended learning opportunities. What programs already exist? How expensive are they? And how effective are they in raising student achievement? These are important factors to consider before proposing new and potentially costly increases to the school day. Adding school time has the potential to increase student achievement but, in the end, it will be a combination of school-based instruction and out-of-school opportunities that will lead to better student learning.

ENDNOTES

- ¹ The task force was convened by the Institute for America's Future and the Center for American Progress, and was co-chaired by Governor Janet Napolitano (D-Ariz.), Goldman Sachs Group senior director Philip D. Murphy and George Mason University professor Roger Wilkins.
- ² Steve Brandt and D. Wascoe, "Superintendents Want to Add 5 weeks to School Year," *Minneapolis StarTribune*, Dec. 8, 2005.
- ³ With the financial support of the Rodol and Broad foundations, The Boston Consulting Group (BCG) and the international consulting firm Cambridge Leadership Associates, along with a steering committee of public, private and civic leaders, developed an action plan for the future of Delaware education. See *Vision 2015* document at <http://www.vision2015de.org/Portals/0/Vision2015report10-12.pdf>.
- ⁴ *Philadelphia Inquirer*, Aug. 10, 2006.
- ⁵ Fran Spielman and K. Grossman, "Daley Pushes Year-Round School," *Chicago Sun-Times*, Oct. 12, 2005.
- ⁶ V. Dion Haynes, "Chief Proposes Year-Round Classes to Aid Ailing Programs," *Washington Post*, Sept. 5, 2006.
- ⁷ Brian C. Mooney, "10 Schools to Lengthen Their Days," *Boston Globe*, July 12, 2006.
- ⁸ Supplemental educational services are a component of Title I of the No Child Left Behind Act of 2001 (NCLB) that provide extra academic assistance for eligible children in Title I schools that have not made adequate yearly progress for three or more years. Supplementary educational services must be provided outside of the regular school day.
- ⁹ David Berliner, "What's All the Fuss About Instructional Time" in *The Nature of Time in Schools*, eds. M. Ben-Peretz and R. Bromme, (New York: Teachers College Press, 1990).
- ¹⁰ Joel Weiss and R.S. Brown, "Telling Tales Over Time: Constructing and Deconstructing the School Calendar," *Teachers College Record* 105, No. 9 (December 2003).
- ¹¹ *Ibid.*
- ¹² D. Tyack and L. Cuban, *Tinkering Toward Utopia* (Cambridge, MA: Harvard University Press, 1995) pp. 12–28.
- ¹³ Lori Cavell, et al. *Key State Education Policies on PK–12 Education: 2004* (Washington, D.C.: Council of Chief State School Officers, 2005).
- ¹⁴ Notably, there are several related efforts to change or expand time in schools, including the growing movement to increase access to full-day Kindergarten and preschool programs.
- ¹⁵ Charles Fisher, et al. "Teaching Behaviors, Academic Learning Time, and Student Achievement: Final Report of Phase III B" (San Francisco: *Beginning Teacher Evaluation Study*, 1978).
- ¹⁶ N. Karweit and R. E. Slavin, "Measurement and modeling choices in studies on time and learning," *American Educational Research Journal* 18, No. 2, 1981).
- ¹⁷ Kathleen Cotton, *Educational Time Factors* (Portland, Ore.: Northwest Regional Education Laboratory, 1989).
- ¹⁸ Julie Aronson, Joy Zimmerman, and Lisa Carlos, *Improving student achievement by extending school: Is it just a matter of time?* (San Francisco: WestEd, 1998).
- ¹⁹ *Ibid.*
- ²⁰ BetsAnn Smith, *It's About Time: Opportunities to Learn in Chicago's Elementary Schools* (Chicago: Consortium on Chicago School Research, 1998).
- ²¹ C. W. Fisher et al., "Teaching behaviors, academic learning time and student achievement: An overview," in *Time to Learn* eds. C. Denham and A. Lieberman, (Washington, D.C.: National Institute of Education, 1980) pp. 7–32.
- ²² David Farbman and Claire Kaplan, "Time For A Change: The Promise of Extended-Time Schools for Promoting Student Achievement" (Boston: Massachusetts 2020, 2005).
- ²³ Karen Hawley Miles. "Rethinking School Resources" (Arlington, Va.: New American Schools, 2000).
- ²⁴ *A Nation at Risk: The Imperative for Educational Reform*. (Washington, D.C.: U.S. Department of Education, National Commission on Educational Excellence, April 1983).
- ²⁵ A total of 24 countries participated in TIMSS-4th grade and 45 countries in TIMSS-8th grade.
- ²⁶ Education at a Glance: OECD Indicators 2006, available online at http://www.oecd.org/document/52/0,2340,en_2649_34515_37328564_1_1_1_1,00.html.
- ²⁷ Timothy DeRoche, unpublished manuscript, 2006.
- ²⁸ Learning for Tomorrow's World—First Results from PISA 2003 (OECD, 2004).
- ²⁹ David Baker et al., "Instructional Time and National Achievement: Cross National Evidence" (*Prospects* 34, No. 3, September 2004).
- ³⁰ Soichiro Tanaka, *Japan's Education at a Glance 2005*, (Tokyo: Ministry of Education, Culture, Sports, Science and Technology, 2005). Also see Ian Rowley and Hiroko Tashiro, "Japan: Crazy for Cramming," *Asian Business Week*, Tokyo, April 18, 2005.
- ³¹ Doris Entwisle, Karl L. Alexander, and Linda Steffel Olson, *Children, Schools, and Inequality*. (Boulder: Westview Press, 1997).
- ³² H. Cooper, et al., "The Effects of Summer Vacation on Achievement Test Scores: A Narrative and Meta-analytic Review," (*Review of Educational Research* 66, 1996) pp. 227–268.
- ³³ The differences in the line trajectories are based on a theoretical model developed by Geoffrey Borman, a quantitative methodologist at the University of Chicago's Measurement, Evaluation, and Statistical Analysis program and the lead analyst for the Center for Data-Driven Reform in Education at Johns Hopkins University. The model assumes an effect size of .20 for summer school, a gap of approximately three-quarters of a standard deviation between low-income and middle-income children at the start of Kindergarten, and a disadvantage of about three months of growth between low-income and middle-income students in their summer achievement growth outcomes.

- ³⁴ Jane David et al., *San Francisco Bay Area KIPP Schools: A Study of Early Implementation* (Menlo Park, Calif.: SRI International, 2006).
- ³⁵ Personal communication, Aug. 21, 2006.
- ³⁶ Hamilton Gil et al., *Inspiration, Perspiration, and Time: Operations and Achievement in Edison School* (Santa Monica, Calif.: RAND Corporation, 2005).
- ³⁷ D. Chaplin and J. Capizzano, *Impacts of a Summer Learning Program: A Random Assignment Study of Building Educated Leaders for Life* (Washington, D.C.: The Urban Institute, 2006).
- ³⁸ See, for example, C. Ascher, "Summer school, extended school year, and year-round schooling for disadvantaged students," (New York: *ERIC Clearinghouse on Urban Education*, No. 42, 1988). Also see G. D. Borman, "The effects of summer school: Questions answered, questions raised," (Ann Arbor: *Monographs of the Society for Research in Child Development* 65, No. 1, 2000) pp. 119–127. Also see *Evaluation report: New York City Board of Education summer school 2001* (New York: Metis Associates, 2002).
- ³⁹ Akiba Lauer et al., *The Effectiveness of Out-of-School-Time Strategies in Assisting Low-Achieving Students in Reading and Mathematics: A Research Synthesis* (Washington, D.C.: McREL and U.S. Department of Education, 2004).
- ⁴⁰ Personal communication with Justin Barra, KIPP Public and Governmental Affairs Associate, August 2006.
- ⁴¹ Anne Marie Chaker, "Backlash grows as some schools begin next week," *Wall Street Journal*, Aug. 3, 2005.
- ⁴² State-based and mostly parent-led groups such as Florida's Save Our Summers and Alabama's Save Alabama Summers have been pushing to keep the traditional school calendar in place.
- ⁴³ Thirteen states currently have a policy that sets an earliest allowable school start date. For a detailed list, see Lori Cavell et al., *Key State Education Policies on PK–12 Education: 2004* (Washington, D.C.: Council of Chief State School Officers, 2005).
- ⁴⁴ Jay Mathews, "Making Sense of the Virginia School-Year Calendar," *Washington Post*, Oct. 7, 2004.
- ⁴⁵ Lowell Rose and Alec Gallup, "38th Annual Phi Delta Kappa/Gallup Poll of the Public's Attitudes Toward the Public Schools," (*Phi Delta Kappan*, September 2006).
- ⁴⁶ *A Report on Findings of the 2003 Nationwide Poll of Registered Voters on Afterschool Programs* (Washington, D.C.: Afterschool Alliance, 2004), available online at http://www.afterschoolalliance.org/poll_jan_2004.pdf.
- ⁴⁷ Duffett and Johnson, *All Work and No Play? Listening to What Kids and Parents Really Want from Out-of-School Time* (Washington, D.C.: Public Agenda, 2004).
- ⁴⁸ Caroline Hendrie, "After a 10-Year Run, Boston 'Pilot' Schools Sore Point for Union," *Education Week*, July 13, 2005.
- ⁴⁹ *Status of the American Public School Teacher 2000–01* (Washington, D.C.: National Education Association, August, 2003).
- ⁵⁰ *Ibid.*
- ⁵¹ Stanley M. Elam, *The Second Gallup/Phi Delta Kappa Poll of Teachers' Attitudes Toward the Public Schools* (Bloomington, Ind.: Phi Delta Kappa International, 1989), available online at <http://www.pdkintl.org/research/tpoll89a.htm>.
- ⁵² P. Gandara, ed., *The Dimensions of Time and the Challenge of School Reform* (Albany: SUNY Press, 2000).
- ⁵³ Transcript from National Association of Year-Round Education conference, Feb. 5–9, 2005, available online at www.nayre.org/05%20Jones%20Speech.html.
- ⁵⁴ Aronson, Zimmerman, and Carlos, 1998.
- ⁵⁵ The most recent is a statistical analysis report released by NCES in 1999 entitled *What Happens in Classrooms? Instructional Practices in Elementary and Secondary Schools: 1994–95* by Robin R. Henke, Xianglei Chen, and Gideon Goldman. This report used the Teacher Follow-up Survey to describe instructional strategies used by teachers.
- ⁵⁶ Personal communication with Ethan Yazzie-Mintz, Ed.D., Project Director of the High School Survey of Student Engagement (HSSSE) at the Center for Evaluation and Education Policy, Indiana University, Oct. 27, 2006.
- ⁵⁷ Farbman and Kaplan, 2005.



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