UNLOCKING TIME
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REIMAGINING TIME IN SCHOOL FOR ALL STUDENTS

A White Paper on Time in Schools

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ABOUT THE UNLOCKING TIME INITIATIVE

The Unlocking Time Initiative seeks to empower K - 12 school leaders to adopt new time strategies that fuel student-centered learning. It provides three types of support for educators working to improve their school's use of time. The first is a free website with resources and case studies to learn how schools around the country are creatively using time. The site also includes a free staff survey tool to help school leaders learn how the calendar, bell schedule, academic programming, and staff time at their school can be leveraged to fuel student-centered learning. For schools looking to go deeper, the project also provides direct technical assistance to help secondary schools implement new time strategies – especially through Abl's master scheduling solution.

Unlocking Time also provides support by conducting and distributing research intended to expand the collective knowledge base on how schools use time. In the 2018 and 2019 school year, this research includes three waves of data collection. The first wave is a survey to gather descriptive information on how a large sample of schools are using time and how this use relates to their academic priorities. The second wave of data collection consists of gathering detailed information on master schedules and planning processes from schools working directly with Abl. The third wave of data collection offers an opportunity to go deep with educators in 5-8 schools looking to make meaningful change on how they use time, and report out the changes they make as a result of direct coaching they receive from education consultants. This data collection will assist in developing ideas about how time changes are selected and introduced in schools and how problems with implementation can be addressed. The information gathered from this body of research will contribute to our understanding of ways to structure time around the needs of students and teachers. Many schools have made promising changes in the way they organize time; the Unlocking Time initiative is aimed at helping educators learn and grow together from these experiences.

Members of the Unlocking Time coalition represent education organizations who share the belief that time-based decisions are a critical component of school success. If you are interested in joining the Unlocking Time coalition, please reach out to contactus@unlockingtime.org.

APPLY FOR DISCOUNTS

THANKS TO OUR GRANT-FUNDED INITIATIVE, DISCOUNTS ARE AVAILABLE THIS YEAR ON ABL'S NEXT-GENERAL MASTER SCHEDULING SOLUTION. APPLY NOW TO DETERMINE IF YOUR SCHOOL IS ELIGIBLE

Unlocking Time Coalition Members

BCASA Bergen County Association of School Administrators
Transcend Building Beyond the Limits of School Design
Rogers Family Foundation
pivot Learning
Envision Education
BIE Buck Institute for Education
SWING education
The Learning Accelerator
ERS
CESA 5 Your Education Solutions Partner
North County Professional Development Federation
Challenge Success Strategies for Student Well-Being & Engagement with Learning
New Tech Network
REFRAME
Start School Later Healthy Hours
Getting Smart
Napa County Office of Education
Education Elements Learners of today. Ready for tomorrow.
springpoint

ABOUT THE AUTHORS

Chrys Dougherty, PhD

Chrys Dougherty is a data analyst and program director in the Strategic Planning division of the Texas Higher Education Coordinating Board. Previously he worked as a principal research scientist for ACT and was director of research at the National Center for Educational Achievement/Just for the Kids. Dr. Dougherty taught statistics, economics, econometrics, and education policy courses at the University of Texas at Austin's LBJ School of Public Affairs and elementary school science in Oakland, California. He is the author of *Asking the Right Questions about Schools: a Parents' Guide*. Dr. Dougherty received his Master of Public Affairs degree from the LBJ School of Public Affairs and Ph.D. in Economics from Harvard University.

Chris Walsh, Head of Growth and Impact at Abl

Chris Fitzgerald Walsh is an experienced K-12 educator, media producer, and entrepreneur. Since his days as a middle school teacher, Chris has leveraged digital tools to bring large-scale innovations to teaching and learning. Most recently, Chris was the CEO of Zaption, an innovator in interactive video for learning which was acquired by Workday in 2016. Chris has held leadership positions with numerous national education organizations including New Tech Network (NTN), Edutopia, WestEd, and the KIPP Foundation. He also co-founded the Google Teacher Academy, and he is the creator and executive producer of the Infinite Thinking Machine. Chris earned his M.A. in Learning, Design, and Technology from Stanford, and a B.A. and M.Ed. from UCLA. In his spare time, he enjoys spending time with family, traveling, kayaking, and searching for the perfect chocolate chip cookie.

Kimberly Swan, Abl's Unlocking Time Program Lead

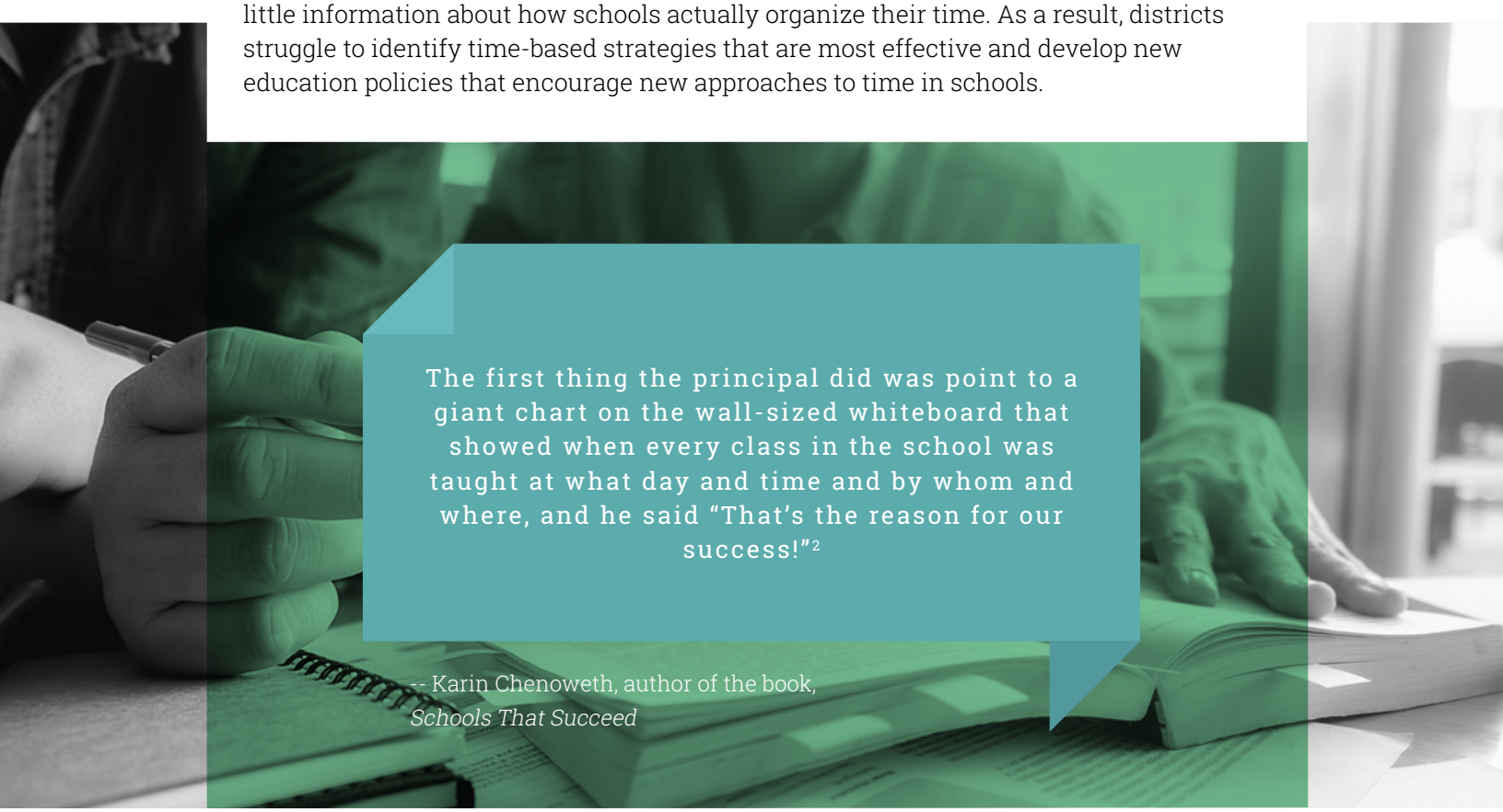
Kimberly Swan loves designing digital products that change hearts and minds. She joined Abl to lead the Unlocking Time project, which empowers K-12 school leaders to rethink how they use time in schools. During her years with design agencies, Kimberly led ambitious digital programs for customers like PG&E, T-Mobile, and Williams-Sonoma. Most recently, she created the Compare and Connect K12 website with EducationSuperHighway which brought price transparency to Internet access for school district leaders and enabled schools to buy more bandwidth at a lower cost. Challenge and adventure are part of her DNA, whether she is backpacking, leading the PTA, or biking down the backside of Hawk Hill on her Sam Hillborne.

EXECUTIVE SUMMARY

In 1994, the National Education Commission on Time and Learning published the "Prisoners of Time" report which concluded that "both learners and teachers need more time—not to do more of the same, but to use all time in new, different, and better ways. The key to liberating learning lies in unlocking time."[1]

25 years later, America's K-12 schools are still trying to unlock time to improve teaching and learning. While many schools have experimented with longer school days or flexible schedules, the vast majority of schools in the United States still follow traditional schedules and academic calendars. This is especially ironic given the profound shifts in how most Americans now structure their personal and professional time, which is more fluid and personalized than ever before.

Schools face a combination of tight resource constraints and high expectations. As a result, students in many schools aren't able to get the classes and support they need to prepare for college and careers, teachers often don't have enough time to collaborate and grow professionally, and school staff find it difficult to juggle the growing number of non-academic activities. In addition, many school districts and states seem to have very little information about how schools actually organize their time. As a result, districts struggle to identify time-based strategies that are most effective and develop new education policies that encourage new approaches to time in schools.



> The first thing the principal did was point to a giant chart on the wall-sized whiteboard that showed when every class in the school was taught at what day and time and by whom and where, and he said "That's the reason for our success!"[2]
>
> -- Karin Chenoweth, author of the book, *Schools That Succeed*

Even so, teachers and leaders in many schools are experimenting with different ways to organize time to meet their educational goals. Experimentation in education is not new, but it's crucial that teachers and school and district leaders are able to learn from these experiments and share their developing knowledge about what works and under what circumstances. Using "Improvement Science" methods and forming improvement networks can accelerate this process of learning and sharing.[3]

Improvement Science

The methodology introduces discipline into inquiries which seek to improve practice. The foundation of improvement science is an understanding of what we need to know to improve practice and how we may come to know it.

The Unlocking Time initiative researches time management strategies for schools that can be used to support these improvement science methods. The initiative funded by Abl, a student-centered master scheduling solution, and the Bill and Melinda Gates Foundation has uncovered effective methods of using time to better serve the needs of students. This white paper will describe the learnings from this program and help educators:

- **Understand the context for how time is used in schools across the country.**
- **Learn how to experiment accurately with time-based strategies.**
- **Review ways that other schools leaders are innovating with time.**
- **Discover new strategies that they can use time to better serve students.**

In addition to the best practices shared, the white paper ends with several case studies which bring to life powerful time use strategies at a diverse set of schools.

While many educators complain that "There simply isn't enough time…," we'll show that time is one lever that educators can employ to personalize learning for each student and improve performance.

DECISIONS SCHOOLS MAKE ABOUT TIME

The Unlocking Time research describes four ways that school time is organized:

The school calendar specifies the start and end dates of the school year and the timing of special events within the year, such as school holidays and professional development days.

Bell schedules specify the start and end time of school days, the timing of classes and other daily activities, and the weekly flow of instruction. Examples of bell schedule strategies include later start times, early release days, block scheduling, class or period rotations, and enrichment periods.

Academic programming involves the assignment of students to courses and teachers, as reflected in the school's master schedule and student rosters. Academic programming decisions are influenced by approaches to student placement, grouping of students, teacher assignments, teacher student workloads, and the allocation of teachers' time between classroom and non-classroom activities.

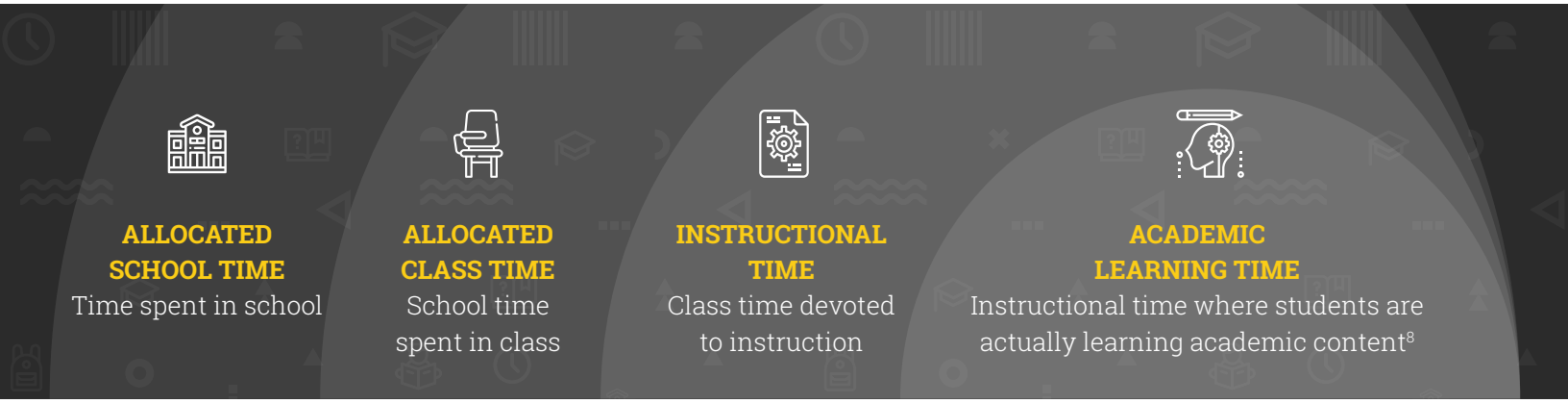
Staff non-instructional time includes time teachers spend outside the classroom preparing lessons, meeting with other teachers, providing additional support to students, assessing student work, documenting student progress and interventions, attending schoolwide and team meetings, supervising students between classes, and communicating with parents.

MAJOR LESSONS FROM THE RESEARCH ON SCHOOL TIME USE

The research on time use in K-12 schools conveys two important lessons:

1. Students are losing a lot of potential learning time at school.

Students do not spend all of their school time in class and do not spend all of their class time focused on academic learning. With that in mind, some researchers have classified students' time into nested categories:

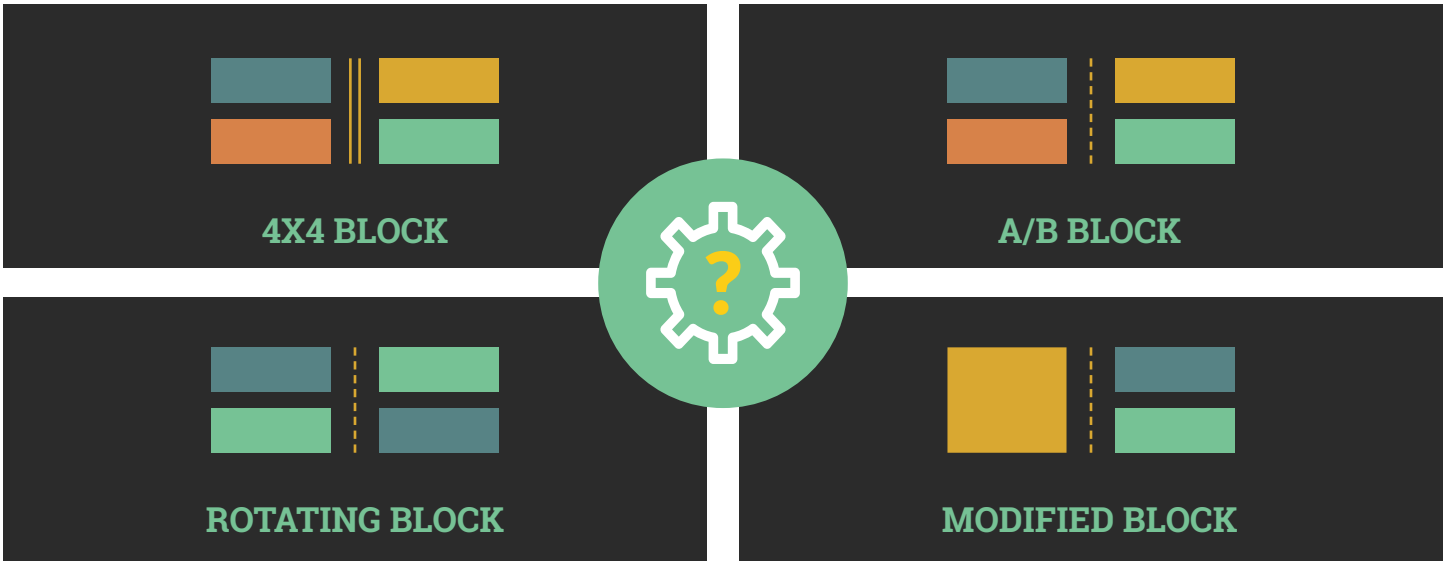


Of these time categories, academic learning time has a stronger relationship to academic achievement than do the broader measures of allocated school and class time.[4] Yet several studies have found that much potential academic learning time is lost. An observational study of 15 Chicago elementary schools in the 1990s estimated that of a planned school year of 900 instructional hours, almost half of that time for the typical student was not instructional time.[5] Similarly, a multi-state study of 780 third-grade classrooms in 2000 and 2001 that focused on student class time found that students were uninvolved in learning activities about one-third of the time.[6] Time losses were also higher as the student poverty rate increased: surveyed teachers in high-poverty California high schools reported losing an average of 18 minutes of academic learning time per class period to interruptions, routine classroom management, and delayed starts, compared with 13 lost minutes reported by teachers in low-poverty schools.[7]

These findings imply two takeaways. First, we must focus on the details of how we are using time in our schools and classrooms. Second, we must diagnose ways in which valuable learning time is being lost and explore ways to reduce these losses.

2. Research studies on many time-use strategies have been inconclusive due to how the experiments were designed (or not designed).

Many time strategies describe general ways to reorganize time without providing data that shows how to specifically reorganize the time.[9] For example, the research on block scheduling, a widely popular type of bell schedule that involves longer class periods, has not examined what teachers do during the reorganized time. In addition, some studies do not even specify what version of block scheduling was investigated.[10]



Given the lack of data, we should not be surprised to learn that research on the effects of block scheduling on teaching strategies and student learning have found inconsistent results, and no clear conclusions can be drawn about the general impact of block schedules.[11] Research on time strategies that can be implemented in many ways will likely continue to yield inconsistent results, especially if the studies do not control for the effectiveness of the specific implementation.[12]

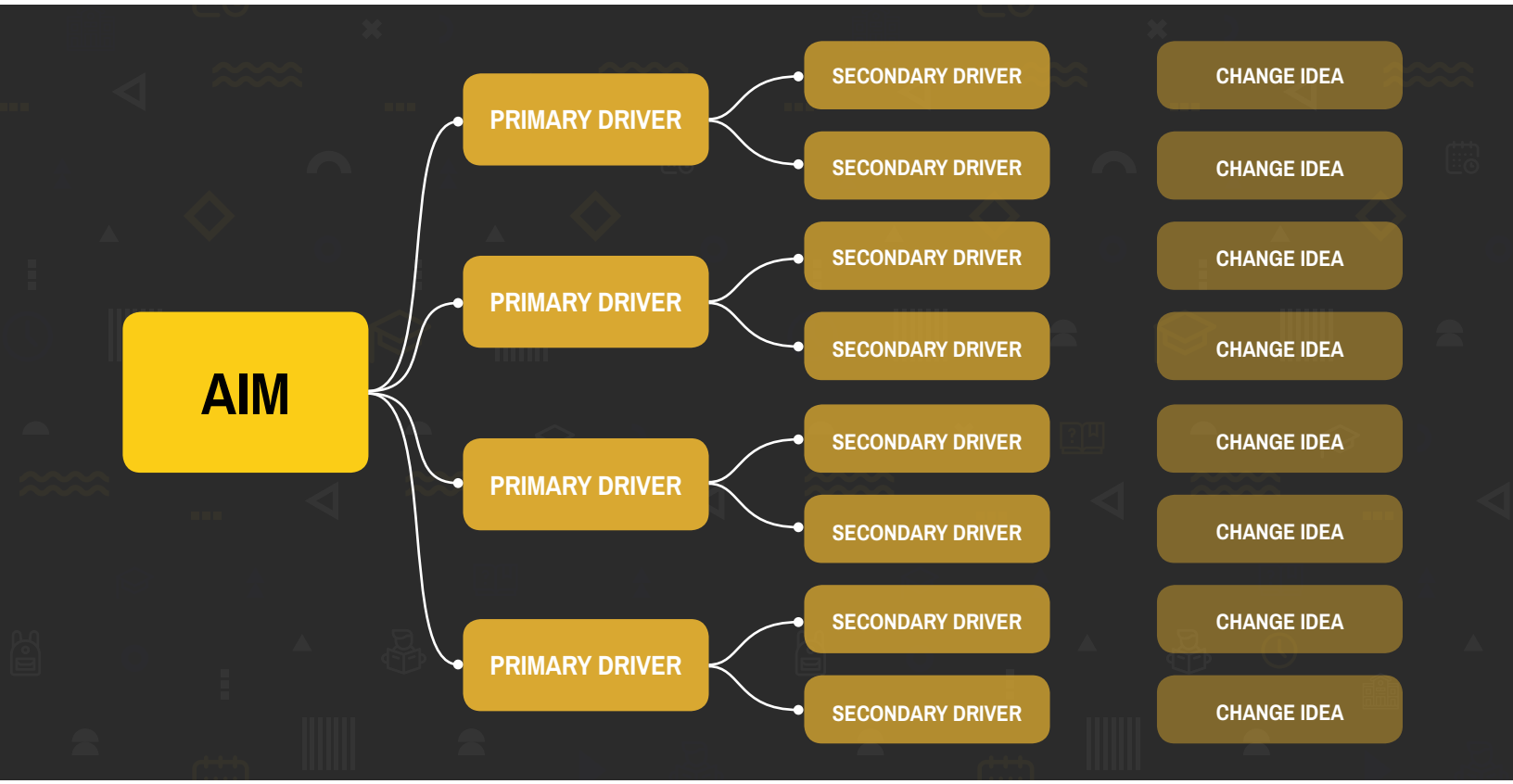
The lesson for practitioners is that they should run experiments and collect data to scientifically measure how well time use strategies work. Even short-term, rapid feedback experiments can give educators early insight into whether or not timely mid-course corrections are necessary.

WHAT PERCENTAGE OF SCHOOLS ARE ON BLOCK SCHEDULES?

CONTRIBUTE TO OUR COLLECTIVE UNDERSTANDING OF HOW TIME IS USED IN OUR NATION'S SCHOOLS BY REGISTERING YOUR SCHOOL AT UNLOCKING TIME TODAY

LEARNING FROM EXPERIENCE AND EXPERTISE USING IMPROVEMENT SCIENCE

Examples abound of education leaders across the nation experimenting with new ways to structure time for their students and staff. To accelerate the process of learning from these experiments, we recommend educators use the continuous-improvement framework provided by improvement science.[13]



The continuous improvement process begins with asking educators to define the key problem to solve. For example, a school might recognize it has a high rate of student failure in Algebra I in ninth grade. Before turning to proposed remedies, educators should develop a detailed diagnosis of likely causes of the problem, taking advantage of the knowledge of experts and practitioners in other settings as well as their own experience. Students may have started struggling in math in the ninth grade, and this could be related to social difficulties in making the transition to high school. Other students may have experienced mathematics difficulties since early elementary school and be convinced that they simply cannot do math. It is especially important not to overlook causes that educators can control.

> "When we have the tools to critically examine our assumptions about time in schools, and understand how we actually do have the power to shape it, we can envision new possibilities for the education of our students."

-- Dr. Timothy M. Wagner, Associate Principal at Upper St. Clair High School in Pennsylvania

The causal diagnosis helps educators identify potential remedies and related time strategy solutions. For example, scheduling an extra support class and adding tutoring sessions for students with long-standing math difficulties are likely to require changes in the school's master schedule. Time may be allocated for teachers to design, implement, and test interventions that will help students change their beliefs about their ability to do math. Students having difficulty making the transition to high school may need counseling interventions or more frequent advisory periods, which also required changes in the master schedule. To address transition issues, the school may provide a multi-day orientation for entering ninth graders, requiring a change in the academic calendar.

To learn what works best in different settings, teachers and school and district leaders can form improvement networks which develop a common program of inquiry to identify and test promising remedies. An example of an improvement network could be a district working group that includes master scheduling teams from each high schools working together to better balance classes. Creating these *networked improvement communities* is likely to require additional changes in the use of time. For example, enabling educators from different sites to work together may involve coordinating master schedules and academic calendars to provide time for discussion and planning solutions.[14]

FIND SOLUTIONS TO REIMAGINE TIME IN YOUR SCHOOL

Explore innovative time strategies

Consider rethinking your bell schedule

Find resources related to time in schools

Read these curated publications about time

Reach out at contactus@unlockingtime.org to add to our growing set of resources about time in schools.

METHODS FOR COLLECTING SHORT-TERM EVIDENCE ON TIME USE STRATEGY EFFECTIVENESS

Educators may want to dive into experiments for time use strategies, but they should consider interim milestones before investing significant time in one experiment. This method of collecting interim evidence is described in Table 1 below.

For example, educators in a grade six through eight middle school might set a long-term goal for the percentage of their graduating eighth graders who meet academic and socioemotional benchmarks for readiness for high school. At the same time, they might consider identifying an intermediate goal of giving students more time to explore personal interests. This intermediate goal could provide indicators of deeper learning in student work and increased student engagement that show students are on track to reach the long-term goals.

In turn, systematic changes in teachers' and students' use of time (which we refer to as time strategies) may be required to make the intermediate goals possible (middle column of Table 1). Finally, educators can develop short-term indicators to monitor how the reallocated time is being used and whether it is having the desired effect (right-hand column of Table 1). Over time educators can keep track of how well these short-term indicators are correlated with student academic achievement and socioemotional development.

When pursuing this method of experimentation, schools must also consider the additional time needed to complete each piece of the continuous improvement framework. Teachers need to collect and review data on the short-term indicators they identify to learn how well each remedy is working. They will also need to decide on and implement mid-course corrections based on the results from these indicators.

Experiments informed by data, such as those described in Table 1, are vitally important to finding the right time-use strategy for a school's students amongst the landscape of many possible strategies.

Table 1 Goals, Time Strategies, and Short-Term Indicators

How adopting new time strategies can drive school improvement goals, and ways to measure progress

INTERMEDIATE GOAL(S)	EXAMPLES OF TIME STRATEGIES TO HELP ACHIEVE THE GOAL	EXAMPLES OF SHORT-TERM INDICATORS
Increase access to advanced coursework for underserved students. Provide adequate support for students needing extra help in those courses.	• Ensure that enough sections of advanced courses exist in the master schedule. • Monitor the proportion of students from different demographic groups who are taking particular classes. • Avoid scheduling approaches that channel students from separate backgrounds into separate classes ("shadow tracking"). • Avoid course conflicts that make advanced classes inaccessible to some groups of students. • Encourage all students to enroll in advanced courses and provide extra support to help them succeed.	• Students enrolled in advanced courses by demographic group • Completion of screening process for students needing additional support • Identified students receiving extra support • Student persistence and grades in advanced courses • Students passing AP courses
Increase teachers' collaborative planning time.	• Implement a late-start or early-dismissal day for students once a week to allow teachers weekly meeting time. • Increase the number of student periods to provide teachers with an additional prep period. • Schedule special classes (e.g., art, music, and P.E.) on the same day to allow core subject teachers to meet together. • Create enrichment activities taught by specialists to free up regular teachers. • Schedule all teachers in the same subject to have an off period at the same time.	• New curriculum created by teachers during collaborative planning time • Observed implementation of new lessons in the classroom • Student work samples and formative assessment from new lessons • Positive teacher feedback measured by surveys/polls and team reflections
Give students time and support for project-based learning.	• Adopt block periods to give students more time for deeper learning. • Carve out time in classes to coach students as they plan and work on their projects. • Create an enrichment period during the school week in which students work on their projects.	• Evidence of deeper learning in student work • Projects completed by students • Student engagement, measured by surveys/polls, teacher observations, and attendance
Give students time to explore personal interests	• Start a Genius Hour program. • Create intercessions in the academic calendar where students attend seminar courses or work on interdisciplinary projects of their choice. • Create independent learning plans for each student.	• Special classes/experiences created • Evidence of deeper learning in student work • Student engagement, measured by surveys/polls, teacher observations, and attendance
Increase uninterrupted learning time during the year.	• Schedule fewer special days or special activities. • Group special activities together in the school calendar.	• Depth and breadth of curriculum coverage • Student engagement, measured by surveys/polls, teacher observations, and attendance • Positive teacher feedback measured by surveys/polls and team reflections

PRACTICAL TIME USE STRATEGY CASE STUDIES

Many schools are already leveraging time use strategies to help them achieve their educational goals. The following case studies describe how a mix of time use strategies helped teachers and schools leaders make significant progress on personalized learning and other school improvement strategies.

ROOSEVELT INTERNATIONAL MIDDLE SCHOOL

Goal

Equalize access to advanced curriculum and reducing shadow tracking

Time-Use Strategy

Use data to balance student cohorts across classes and enroll students in rigorous courses with additional support

The leadership of Roosevelt International Middle School in San Diego, CA sought to use the school's master schedule to equalize access to a strong academic curriculum for their student population, which included 70% economically disadvantaged, 65% Hispanic, 14% English learner, and 14% special education students.[15] In addition, they sought to minimize student scheduling conflicts and avoid "shadow tracking"—inadvertently grouping at-risk students separately from the other students for scheduling convenience.

To accomplish these objectives, the school scheduling team used Abl's master scheduling tools and coaching to ensure that ELL and Special Ed students were equitably distributed across classrooms and that all student subgroups were represented in honors and advanced courses. They also used multiple sources of data, including data on prior academic achievement, to determine which students were likely to need extra support in their classes. In turn, teachers were organized into intervention teams to provide the extra support to these students. The schedule was reorganized to create weekly common planning time for groups of teachers responsible for specific student cohorts. With the new schedule only in place for a few months, it's too early to know how these changes are impacting student outcomes, but through equitable demographic enrollment in advanced coursework and electives, Roosevelt and Abl hope to close achievement gaps among English language learners and students of color.

Shadow Tracking

Inadvertently grouping at-risk students separately from the other students for scheduling convenience.

ELM CITY COLLEGE PREP ELEMENTARY

Goal

Provide dedicated time for self-directed, personalized learning

Time-Use Strategy

Schedule immersive projects every eight weeks

In designing the Greenfield Schools model, the staff of the Achievement First charter school network sought to give Elm City College Prep Elementary students access to a variety of types of learning experiences during the school day: individual self-paced learning, small-group sessions with close feedback from teachers, larger-group seminars and labs, and extended periods working on immersive projects.[16] In addition, they sought to provide common planning time for teams of teachers in each core academic subject area.

To support students' ability to work on immersive projects, the school staff created an academic calendar that dedicated one or two weeks to these projects every eight weeks. For the remaining instructional time, they created a weekly master schedule that alternated self-paced learning and small- and large-group instruction in mathematics, science, and the humanities (English and social studies). The schedule also provided an enrichment period consisting of a fine arts class, a 20-minute daily period for goal teams of 12 to 14 students to meet with their faculty advisors, and daily time for teacher teams to meet and plan lessons. To simplify the job of scheduling teacher meetings, each teacher was assigned to teach only one subject, so that individual and collaborative planning time could be scheduled when no classes in that subject were going on. Because the bell schedule made it possible to schedule all classes in a subject during only part of the day, teachers ended up with three hours a day of grading, planning, and collaboration time.

After a year of making modifications to enable the school's instructional design to work, the grade span of the school was expanded to include all grades from kindergarten through sixth grade, serving a student population of 461 students in the 2017/2018 school year who were roughly 73% African-American and 24% Hispanic.[17] The school showed positive results in fifth and sixth grade reading and fifth grade mathematics after the first year, and educators in the school have been looking into additional ways to measure the school's desired outcomes of increasing students' motivation to learn and their ability to organize their own learning. School leaders learned in the first few months that students do not automatically know how to organize the productive use of their own time. They needed to teach and reinforce self-directed learning as a set of skills.[18]

INTERNATIONAL HIGH SCHOOL

Goal

Reduce teacher caseloads and grouping students to encourage peer learning

Time-Use Strategy

Assign and group teachers intentionally and provide access to college classes

International High School (IHS), a school for immigrant students in Queens, NY, had a 2015/2016 school year enrollment of 518 students from 54 countries speaking 39 languages.[19] Given this population, teachers and leaders in the school have sought to group students so that students who are less proficient in English are matched with students with the same native language whose English proficiency is stronger. They identified several objectives to support this overarching goal:

- Group teachers into interdisciplinary teams to facilitate curriculum development
- Limit each teacher's student caseload to 75 or 80 students
- Coordinate the schedules of juniors and seniors so that those students could take courses for dual credit at LaGuardia Community College
- Create daily planning time for teachers
- Block additional time during the week for teacher teams to collaborate

To accomplish these objectives, the school's ninth and tenth graders were organized into three interdisciplinary teams and the eleventh and twelfth graders into two teams. Each team was further divided into multiple classes of approximately 26 students who would stay together for most of the school day, thus ensuring the stability of student pairings by language background and proficiency. Ninth and tenth graders took three 70-minute classes that each met four days a week, an advisory class, and an enrichment class. For eleventh and twelfth graders, some of this schedule was replaced by college classes at LaGuardia Community College, and seniors could stay an additional year to complete an associate's degree. Teachers had four 70-minute preparation periods and two collaborative interdisciplinary team meetings a week scheduled near the beginning or end of the school day.

HIS' changes have helped HIS students and teachers at HIS be successful based on the district's academic standards. Compared with a 2015 citywide four-year graduation rate of 72%, IHS's rate was 89%. On average, graduating students earn 30 college credits while they are at IHS.[20] The 2016 New York City Department of Education School Quality Review gave IHS the top rating on all seven indicators examined in the review: rigorous instruction, collaborative teachers, supportive environment, effective school leadership, strong family and community ties, trust, and student achievement.

ARLINGTON WOODS ELEMENTARY

Goal

Capture more time for student socioemotional learning and teacher collaboration and planning

Time-Use Strategy

Modify the schedule for additional "special" periods and carve out teacher planning time

The staff of Arlington Woods Elementary, a K-6 school in Indianapolis, IN, faced twin problems of poor student behavior and low academic achievement in their at-risk student population of around 500 students, 81% of whom were eligible for free and reduced price lunch.[21] Many students were chronically absent, and there were often 30 or more students in the behavior room. The behavior problems were reflected in academic problems: only 44% of students in K-2 were on track in their reading/decoding skills, as measured by DIBELS. Mathematics scores on the state test were declining. To address these problems, teachers asked for more collaboration time than the existing 30 minutes every other week, more support in teaching mathematics, and more attention to addressing the students' social and emotional learning (SEL).

In response, the school staff increased class sizes by three to five students in several grades to free up positions for an SEL teacher and a math specialist. They modified the schedule to add two "specials" periods, one focused on SEL skills and one on a combination of SEL and media skills. Noting that school was starting late and ending early to accommodate students' late arrivals and early departures, teachers decided to recapture this time and communicate with parents about the importance of their students being present for the full academic day. All of these changes created enough time for the regular classroom teachers to have 50 minutes of individual planning time four days a week and a 100-minute block of collaborative planning time once a week.[22]

Arlington Woods saw progress in the first year of implementation, including a 60% reduction in the number of students absent 10 or more days and a 60% reduction in suspensions. Attendance jumped from 93 to 99%. Teacher participation in commonly agreed upon instructional strategies increased. Finally, 41% of students were showing high growth on the Star 360 diagnostic reading assessment since the beginning of the year and 19% showed high growth in mathematics.[23]

HILLSDALE HIGH SCHOOL

Goal

Promote teacher collaboration around interdisciplinary student projects

Time-Use Strategy

Vary daily class period length

In 2003 the staff of Hillsdale High School in San Mateo, CA reorganized the school into student "houses" of 200-280 students to provide teachers with enough individual and collaborative planning time to improve curriculum and instructional practices.[24] A team of eight teachers (two per subject for each of four core academic subjects) taught each house. Staff hoped to improve the development of interdisciplinary student projects on topics such as immigration, understanding human nature, and policy responses to human rights abuses. Compared with other schools discussed in this report, Hillsdale had relatively few students from at-risk student populations: 21% of the school's enrollment of 1,534 students in 2017-18 were identified as socioeconomically disadvantaged and 11% were English Language Learners.[25]

The new bell schedule developed at Hillsdale created 50-minute class periods on Monday, Tuesday, and Friday and 88-minute periods on Wednesday and Thursday. A/B block scheduling was used on Wednesday and Thursday, with each class meeting on one of the two days. The master schedule included two individual planning periods in each of the three shorter-period days and a double-length planning period on one of the two block-scheduled days. The academic week also included four collaborative team meetings, one leadership team meeting, and one professional development meeting with an activity designed by a teacher on special assignment.[26] Some team meetings consisted of all teachers across subjects in a given house, and others included teachers of a given subject area across different houses. Subjects of the meetings might consist in improving a particular curriculum unit or diagnosing what needs to be done to assist particular students who are having difficulty.

In the first 8 years of implementation, the school's Academic Performance Index score increased from 768 to 818. However, challenges remained: when the state moved to a new testing system, relatively low percentages of the school's students from at-risk groups met the academic standards on the new tests. For example, although 51% of the school's students overall met or exceeded state standard in mathematics in eleventh grade in the spring of 2018, the corresponding percentages were 23% for Hispanic students and 24% for economically disadvantaged students.[27]

SHARING BEST PRACTICES ON THE USE OF TIME

Looking across the case studies we presented, teachers and school leaders have addressed many goals by restructuring their use of time. They have grouped students and matched students to teachers to increase opportunities for students from at-risk populations. They have structured time for teacher planning and collaboration, enrichment periods, advisories, extra academic support classes, longer classes, classes with varying lengths, periods for independent student work, student work in small groups, and immersive learning experiences.

As described at the beginning of the white paper, schools and districts need to experiment, learn and share data to effectively unlock time and improve schools sustainable. Projects, such as the Unlocking Time initiative, can help educators evaluate what changes in the organization and use of time are needed in their own schools, given the context of their students and community and the problems they are trying to address. By expanding the knowledge and understanding of these approaches to unlock time, schools across the country can benefit from each others learning and lead broadscale change in how schools teach students more effectively as individuals.

> Privacy of practice produces isolation; isolation is the enemy of improvement."
>
> -- Richard Elmore, Harvard Graduate School of Education's Gregory R. Anrig Research Professor of Educational Leadership Professor

ENDNOTES

1 Education Commission of the States, *Prisoners of Time. Report of the National Education Commission on Time and Learning*, 1994.

2 Karin Chenoweth, "*Schools that Succeed*,", p 181

3 The Carnegie Foundation advocates for the use of improvement science to accelerate improvement in a field of study. https://www.carnegiefoundation.org/our-ideas/

4 Julie Aronson, Joy Zimmerman, and Lisa Carlos, *Improving student achievement by extending school: Is it just a matter of time?* San Francisco: WestEd, 1998. This report uses a slightly different language for time use categories than the Silva (2005) report. For example, Aronson et al. define academic learning time as "that precise period when an instructional activity is perfectly aligned with a student's readiness and learning occurs." Thus, they would not classify student time spent on busywork with little learning value as "academic learning time." Learning time would be difficult to measure by this definition, since one would need information on each student's prior knowledge.

5 BetsAnn Smith, *It's About Time: Opportunities to Learn in Chicago's Elementary Schools*. Consortium on Chicago School Research, 1998, downloaded 10/8/18 from https://consortium.uchicago.edu/publications/its-about-time-opportunities-learn. Another major source of lost time is classwork that does not make good use of students' time. For example, a study in five school districts estimated that students spent an average of 500 instructional hours per year on unchallenging, below-grade-level assignments, and that students in at-risk groups spent only half as much of their time on appropriate assignments as did more advantaged students. TNTP, *The Opportunity Myth: What Students Can Show Us about How School is Letting Them Down, and How to Fix It*, https://tntp.org/publications/view/student-experiences/the-opportunity-myth.

6 National Institute of Child Health and Human Development Early Child Care Research Network, "A Day in Third Grade: A Large-Scale Study of Classroom Quality and Teacher and Student Behavior," The Elementary School Journal, Vol 105, No. 3, 2005, Table 4.

7 John Rogers and Nicole Mirra, *It's About Time: Learning Time and Educational Opportunity in California High Schools*, UCLA Institute for Democracy, Education, and Access, 2014, https://idea.gseis.ucla.edu/projects/its-about-time.

8 Elena Silva, *On the Clock: Rethinking the Way that Schools Use Time*, Education Sector, January 2007, http://elenamsilva.com/wp-content/uploads/2013/05/On_the_Clock_Rethinking_the_Way_Schools_Use_Time.pdf.

9 As an indicator of the popularity of block scheduling at the high school level, one report stated that 77% of high schools in Virginia had adopted some form of block scheduling. Lisa A. Banicky, "Block Scheduling: A Review of the Literature," Department of Educational Leadership and Assessment, Virginia Beach Public Schools, September 2012, https://pdfs.semanticscholar.org/4a14/49492a3901da010e3a843c980f0867418105.pdf. This report also provides a good overview of the research on block scheduling.

10 Sally J. Zepeda and R. Stewart Mayers, "An Analysis of Research on Block Scheduling," *Review of Educational Research*, Vol. 61, No 1, Spring 2006, https://www.jstor.org/stable/pdf/3700585.pdf.

11 Zepeda and Mayers, pp.147-8 and 150-3, and Banicky, p. 4.

12 Anthony Bryk, "Redressing Inequities: An Aspiration in Search of a Method," text of keynote address given at Carnegie Summit on School Improvement, March 2017, pp. 7-9, https://www.carnegiefoundation.org/wp-content/uploads/2017/04/Carnegie_Bryk_Summit_2017_Keynote.pdf.

13 Anthony Bryk, Louis Gomez, Alicia Grunow, and Paul LeMahieu, *Learning to Improve: How America's Schools Can Get Better at Getting Better,* Harvard Education Press, 2015.

14 For further discussion of networked improvement communities, see Sarah McKay, "Five Essential Building Blocks for a Successful Networked Improvement Community," Carnegie Foundation for the Advancement of Teaching, May 2017, https://www.carnegiefoundation.org/blog/five-essential-building-blocks-for-a-successful-networked-improvement-community/.

15 The information for this example is taken from Christina Casillas, "Master Scheduling: Translating Values into Practice," *Principal Leadership*, September 2018, pp. 54-7. Data on the school's number and percentage of English learners in 2017 to 2018 (139 English learners, or 14% of a total enrollment of 983 students) are on the California Department of Education's website, https://www.cde.ca.gov/ds/sd/sd/.

16 Meg Benner and Lisette Partelow, "Reimagining the School Day: Innovative Schedules for Teaching and Learning," Center for American Progress, February 23, 2017, pp. 5-8, https://www.americanprogress.org/issues/education-k-12/reports/2017/02/23/426723/reimagining-the-school-day/.

17 The statistic of 461 students enrolled in the K-6 elementary school in 2017 to 2018 is provided on the school's website at https://www.achievementfirst.org/school/elm-city-college-preparatory-elementary-school/. An ethnic breakdown is provided by the state website only for the K-12 school in which the elementary school is embedded, which had a total enrollment of 726 students in the 2016 - 2017 school year, of whom about 73% were African American and 24% were Hispanic. See http://edsight.ct.gov/Output/School/HighSchool/2890113_201617.pdf.

18 Deborah Sawch, "A Case Study of Achievement First's Greenfield Schools Year One Pilot," June 2016, https://static1.squarespace.com/static/55ca46dee4b0fc536f717de8/t/57b7688aff7c50e4a7e9cc60/1471637645702/AF+Greenfield+Year+1+Pilot+Case+Study+2016.pdf.

19 The information for this example is taken from Jacqueline Ancess, "How Time is Used to Support Teaching and Learning at The International High School at LaGuardia Community College," Stanford, CA: Stanford Center on Opportunity Policy in Education, 2017.

20 It was not clear how many of these credits were earned in the seniors' optional fifth year at LaGuardia Community College.

21 The information for this example is taken from Karen Hawley Miles and Melissa Galvez, "To Drive Change, Realign Your Resources," Education Leadership, June 2017, pp. 22-27, http://www.ascd.org/publications/educational-leadership/jun17/vol74/num09/To-Drive-Change,-Realign-Your-Resources.aspx.

22 Due to staffing issues, the school reverted to their original schedule in the 2018 - 2019 school year, but plans to go back to the 100-minute planning and collaboration blocks next year.

23 The source did not include information on how these results compared with results from the previous year.

24 The information for this example is taken from Soung Bae, "It's About Time: Organizing Schools for Teacher Collaboration and Learning," Stanford, CA: Stanford Center on Opportunity Policy in Education, 2017.

25 Demographic and achievement data for the 2017-2018 school year come from the California Department of Education's online California School Dashboard, https://caschooldashboard.org/reports/41690474133070/2018 .

26 Teachers on special assignment, or TOSAs, are teachers given a short-term leadership role in the school who eventually return to their classroom responsibilities. The purpose is to offer leadership opportunities to teachers without permanently removing them from the classroom. See Chrys Dougherty and Heather Zavadsky, "Giving All Students the Key to College and Skilled Careers: One District's Approach," *Phi Delta Kappan*, Vol. 89, No. 3, November 2007, pp. 194-9, http://www.pdkmembers.org/members_online/publications/Archive/pdf/k0711dou.pdf.

27 2017-18 California Assessment of Student Performance and Progress, https://caaspp.cde.ca.gov

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ABOUT ABL

Abl's master scheduling solution helps districts directly address equity and access to ensure all students are college and career ready. Abl offers a complete scheduling solution that moves beyond time-consuming magnet boards, spreadsheets, and outdated SIS tools that can't meet the needs of today's complex school programs. Through a combination of intuitive software and strategic coaching, Abl aligns scheduling with district priorities, optimizes teaching and learning, and maximizes finite resources — while keeping students front-and-center through the entire process.

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