Five Levers to Improve Learning

How to Prioritize for Powerful Results in Your School

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Introduction: Schools, Leadership, and Change

Vignette 1: A New School

Based on the premise that "smaller is better," Willow Wood School District was awarded a significant grant to create a small high school, with funding provided for various structural changes that would be required. The grant application had described how the smaller environment would create a more connected, personalized learning experience for students.

In the initial months the district addressed complex logistical details and brought in architects to plan for changes to a wing of an existing high school. The district's IT team began to plan for a new computer network. A planning committee was formed to discuss the mission and vision of the new school. It was decided that teachers would be trained in a comprehensive instructional methodology emphasizing authentic problem solving and workplace readiness. The district brought in a consultant to assist with marketing to appeal to students with an interest in 21st century manufacturing and international business. A school principal was selected. A name, Global Prosperity Academy, was chosen because it aligned with the adopted mission of providing an international education that would prepare students to thrive in a global economy.

Six months before the opening of the new school, staff members were hired from the existing high school, and they were empowered to make a number of decisions related to curriculum and school structure. The intent was to develop a curriculum whereby students could focus on one of three sets of courses emphasizing workplace-readiness skills, global awareness, or engineering. Each student would have a laptop. The staff chose to implement a block schedule, and rather than using a traditional report card, they decided to use a new standards-based report card. An online curriculum development tool was selected for teachers to develop and track their curricula.

By the start of the school year, the building was ready and students were enrolled. Staff had attended two summer workshops to gain a better understanding of authentic problem-solving strategies and workplace-readiness skills. At a parent meeting a few days before school began, the new standards-based report card was distributed, along with a pamphlet explaining the philosophy of the school and its mission statement. The facility looked great, and the community was energized by the concept of a new, small school with a global focus and lots of computers.

On opening day, a crew from a local television station pulled in front of the school, and a reporter spoke with students and others about the opportunities offered by the Global Prosperity Academy. The story that aired that night featured a close-up of the school's gleaming new sign; a few interviews with excited parents, the principal, and hopeful students; a shot of the impressive computer lab; and a closing scene showing a group of students heading inside as the first bell rang. The prospects of the Global Prosperity Academy had stirred tremendous excitement.

Unfortunately, that excitement quickly waned. After a few months it was clear that student achievement was no better than it had been at the large high school—and attendance rates were actually worse. The curriculum was never fully developed around the identified mission and purpose, and factions formed between what students perceived to be the high-achieving engineering group and the low-achieving workplace-readiness group. Two years later, the school was moved to a new site and completely reorganized. The enthusiasm of the early days gave way to finger-pointing, blame, and frustration.

Vignette 2: A New Kitchen

If you've ever undertaken a kitchen remodeling project, you understand the complexity of the process. It typically begins with an expressed need or concern: not enough room for the family, too few cabinets, outdated décor; or perhaps it's just time for a change. For the next several months, a conversation unfolds about what to do. You look at catalogs and web pages and bring in contractors to share their perspectives. As you gather quotes, sticker shock starts the process all over again. You discuss the long-term impact of the decision on finances and do some form of cost-benefit analysis on the back of an envelope or, perhaps, in a meticulously designed Excel spreadsheet. You consult the bank, hire a contractor, and finally the work begins.

For the next several months, your life is total chaos. Fast-food containers pile up in the trash and dishes in the bathroom sink become the new normal. The contractor realizes that a product is on back-order, and the electrician, who was supposed to come a few weeks ago, is out on another emergency call.

Just as you are about to give up hope, progress is made and you see the new kitchen actually starting to take shape. Walls are painted; the sink works. You move your dishes into the new cabinets, turn on the new stove, and are excited at the prospect of actually using your new kitchen. You write the final check for the contractor and revel in the fact that the remodeling job is complete.

You are thrilled with the result. There's more room, it's more comfortable, and the space looks great.

That evening, you prepare your first meal in the remodeled space. You grab your grandmother's pot roast recipe from a folder on the new shelf. You've made the recipe dozens of times and are anxious to prepare it in the new kitchen. You pull several shiny new pans out of the impressive cabinets, fill a measuring cup with water from the new sink, take vegetables and a roast out of your new stainless steel refrigerator, steam the vegetables on the new stove, and place the roast in your new oven. The table is set. The digital timer announces that the roast is finished, so you take it out of the oven and set it on a hot-pad on the impressive granite countertop. You are ready to eat. You sit down at the table and serve yourself. You take the first bite of the roast, close your eyes, and begin to chew.

You open your eyes. A feeling of disappointment washes over you as you realize that the food tastes exactly the same as it did when you prepared it in the old kitchen. It's good, but not great. It's your grandmother's recipe, but it's still not your grandmother's pot roast. Your 7-year-old complains that he doesn't like it. The 10-year-old asks why you didn't make it like Grandma does. Although the kitchen looks very different than it did before, the time, the effort, and the resources invested in the remodeling process didn't translate into better results.

"This tastes the way it did in the old kitchen," you sigh.

"Why would remodeling the kitchen make the food taste better?" asks your 10-year-old.

When we read these anecdotes, we're disappointed that the shift to a smaller school didn't have the intended results. The district invested time, effort, and resources in improving a school, and the initiative was unsuccessful. However, when we read about the kitchen remodel, we're surprised that anyone would expect the food to taste any better. Why is it that when a school is restructured we expect an increase in student learning, yet when we remodel a kitchen we understand that the quality of the food won't necessarily improve?

This book provides a framework for thinking about school improvement in a way that aligns effort and results for a successful outcome. But before we outline the basic components of the framework, let's consider the broader context surrounding current reform efforts.

Standing at the Crossroads

Barely two generations ago, the United States led the world in educational attainment. By the end of the civil rights movement, children had access to near-universal public education through high school. Meanwhile, most other developed countries were positioned to educate only a portion of their children and youth. American achievement was the envy of the world.

Two generations ago, the design of public education in the United States was generally well aligned with the economic needs of the nation. A minority of students were educated at high levels, and a majority were well prepared to enter an adult work environment that was highly structured, that suited workers who could tolerate repetitive tasks and needed close

supervision and direction, and that accommodated those who were not prepared to solve complex problems. People who were educated at higher levels generally were responsible for supervising and managing the rest.

Two generations ago students could leave formal education knowing most of what they would need to succeed as adults. Even students who left the school system before high school graduation could find work that paid well enough to raise a family and enjoy a middle-class life. As Harvard professor Roland Barth has stated,

> Fifty years ago high school graduates left school knowing 75% of what they would ever need to know in order to function successfully in the workplace, in their families and communities. Today, the estimate is that our high school graduates leave knowing only 2% of what they need to know, leaving 98% yet to come. It is not that high school graduates know less than their counterparts back in the 1950's; in fact, they know far more. But today, a basic kit of knowledge just does not cut it anymore. (1997, p. 56)

Two generations ago, most Americans viewed education as a key investment in building a better future for the nation and its communities. Taxpayers were generally willing to invest in infrastructure and operational costs to ensure that schools were able to accomplish the mission they had been given. Schools as institutions, although criticized, were generally seen as providing a path to a better future than the life enjoyed by the previous generation.

The world has changed—dramatically. Most experts agree that the U.S. education system has not improved significantly over the past decade or more (Ravitch, 2010). Test scores are generally flat, and many view the federal and state policies designed to move the system forward as having fallen far short and maybe even being a distraction from a focus that might have produced better results.

Meanwhile, other developed countries have invested strategically in their educational systems, are seeing significant progress, and are growing their capacity to do even better. The U.S. system that not long ago was the envy of the world has slipped on international rankings in academic subject areas to at or below the international average (Organization for Economic Cooperation and Development [OECD], 2010). Other countries now are

educating an ever larger portion of their youth, whereas the stubbornly high dropout rate in the United States increasingly leaves us educating a comparatively smaller cohort of its youth (Tucker, 2011). Even the performance of our best students no longer stacks up well against the best in other countries. For example, the portion of students in the United States performing at the highest levels on international exams is smaller than in some developing countries, including Mexico (OECD, 2010). It is not so much that U.S. education has fallen back as it is that other countries are improving at a faster rate and achieving better results with their work. The current U.S. system is inefficient in that we are spending hundreds of millions of dollars to remediate students who fail to learn.

Each year special education classes are filled with tens of thousands of students who perhaps would not have to be there if they had been taught, from the start of their schooling, in the ways that they learn best. Ironically, when students finally find themselves identified and placed in such classes, the focus becomes doing that very thing—teaching them in the ways they learn best.

As noted, our national dropout rate has remained stubbornly high. Yet students who decide to leave high school before graduation overwhelmingly report that their reasons for leaving were not that the work was too hard but that they found the work to be boring and not relevant or useful to the lives they envision. Meanwhile, of students who graduate from high school and choose to enroll in two-year colleges, 75 percent must enroll in remedial courses in math or English or both (Center for Public Policy and Higher Education, 2010).

The well-paying but relatively low-skill jobs of the past—for which a large portion of students were prepared and which once supported the middle class—are gone. The jobs have been either absorbed by technology or shipped to places where labor is less expensive and less organized. No longer can a student leave formal education at the end of high school (or before) and expect to gain and hold a job that will support a middle-class lifestyle.

The public's willingness to pay for today's educational system also is waning. The cost of education in the United States is among the highest in the developed world. Yet the results are at best average, and, as noted,

they appear to be slipping as other countries invest in and improve their systems. Taxpayers increasingly ask whether they are getting a reasonable return on their investment. Line items for education in the federal and state budgets are seen as expenditures to be minimized and contained rather than as an investment that will yield a high return. As the U.S. population ages and fewer taxpayers have children in schools, this challenge will grow. We must find ways to increase the efficiency and productivity of our schools if we hope to maintain community support in terms of both goodwill and funding.

Meanwhile, educators are being held to higher levels of accountability than ever before. No Child Left Behind legislation created new levels of accountability for schools to address the needs of all students. Race to the Top grants move that accountability to each individual teacher, and new policies related to teacher evaluation place teachers under higher levels of scrutiny. At the same time, contrary to cynics' perceptions, teachers and administrators work extremely hard—both in and out of their schools—to address student needs.

In the middle of this expanding challenge, reformers at the federal, state, and even local levels too often become preoccupied with supposed "silver bullet" solutions that address aspects of the system yet hold little leverage and even less promise of making a real difference in student learning. These solutions often sound plausible and make intuitive sense. Unfortunately, such solutions frequently focus on the wrong levers and result in little if any improvement. Yet they can cost hundreds of millions of dollars, waste valuable time, defeat teachers, and demotivate students before losing favor and being abandoned.

Despite these seismic shifts, the U.S. educational system continues much as it did when students' prospects after high school were much better and more predictable. As a result, we risk having the current system underprepare large segments of the student population, creating a permanent underclass without the skills necessary to succeed in today's workplace while hundreds of thousands of excellent-paying jobs that require higher skills go unfilled, even in recessionary times (McKinsey, 2009). Today's schools and districts must consider different ways to leverage their capacity to educate all students at high levels.

A Predictable Pattern

Look at the characteristics of School A and School B in the following table. Both schools are a part of the same district and are only a few miles apart. At which school would you predict higher levels of student achievement?

School A	School B
Charter school	Public school
1-to-1 laptops	1 computer lab
Standards-based report card	Traditional report card
Some gender-separate classrooms	Co-ed classrooms
Block schedule	52-minute periods
Extended school day	Standard school day
Online norm-referenced formative assessments 3 × year	Norm-referenced formative assessments
Collaborative release time	No collaborative release time
19 students per class	24 students per class
185 total students	628 total students

The hundreds of educators with whom we've shared this table in workshops and classes tend to be fairly evenly divided when looking at these two schools: about one-third argue for School A, one-third argue for School B, and one-third argue that the information is insufficient to enable a prediction about achievement. In support of each argument they often cite anecdotal evidence of an initiative that succeeded or failed, identify their support or disdain for components recently adopted or approved by their school boards, and some even cite specific pieces of research to support their position.

Then, they are told that there is more to the story of these two schools. In addition to the structural characteristics listed in the first table, there are a number of other differences between School A and School B. These differences are listed in the following table.

School A	School B
Ambiguous mission and purpose	Clearly defined mission and purpose and utilization of measures aligned to both
No published, articulated curriculum	Prioritized curriculum and learning goals
School A	School B
Exclusive utilization of judgmental feedback from teachers to students	Developmental feedback and expectation of mastery over time on targeted goals
Didactic, nondifferentiated instructional methods	Flexible, student-responsive instructional methods
Lecture utilized almost exclusively	Instructional strategies aligned to learner's needs
Low time-on-task for student learning	High time-on-task for student learning
Does not use data to inform improvement efforts	Data systematically used by students, teachers, and administrators to inform improvement efforts
Collaborative time utilized to discuss logistics and scheduling	Frequent dialogue among teachers linking achievement and perception data to action planning for curriculum, instruction, and assessment
Teacher supervision and evaluation utilized in a punitive manner, and only after parent complaints	Feedback actively sought among teachers and administrators in continuous efforts to improve their practice
Low academic press among staff; low expectations among students; general mistrust among administration, teachers; and students.	High academic press among staff; high levels of support and trust; high expectations for learning among administration, teachers, and students

At this point, nearly all educators say that School B would demonstrate dramatically better learning outcomes than School A. Rather than arguing for why they think School B would demonstrate higher levels of achievement, they simply talk about how nice it would be to work there. They don't feel the need to argue in favor of School B because, given these additional descriptors, it is the obvious choice.

Why is it that when we implement structural changes, such as those listed in the first set of descriptors, we expect students to learn more? Too often, the effort put forth, the political chips spent, and the resources allocated to make these structural changes result in few, if any, meaningful differences in educational practices or student learning. These structural changes are one type of leverage that can be used to influence student learning, and the appeal of this lever is strong. It is concrete in that the current structure and the desired structure can be clearly articulated and explained to community members, parents, and boards of education. Changes such as moving to a block schedule, adding more computers, or developing a new report card fit neatly into strategic plans, and their implementation processes have clearly defined starting and ending dates. However, we argue that these types of changes often produce the least amount of leverage in terms of improving student learning.

Maximizing Effectiveness by Engaging in the *Right* Work

This book isn't about engaging in *more work*; it is about a simple but powerful framework to ensure that we are engaged in the *right work* to prioritize efforts to develop classrooms, schools, and districts that make the fullest possible use of our collective capacity to improve student learning. This book is about identifying—and letting go of—initiatives that will likely languish or fail, and identifying and embracing those that are likely to lead to student success. It is about becoming aware of efforts that will result in what we call *leverage advantages* as compared to those that can result in *leverage errors*.

Leverage Advantages

A lever is a means or device used to accomplish something that otherwise might not have been possible. In physical terms, a lever is useful because it dramatically increases the amount of weight that can be lifted on one end of the lever given a limited amount of force applied to the other end. Through the intentional use of a fulcrum and a plane, a lever redistributes force in a manner that makes the impossible, possible. Archimedes carries this concept to the absurd (but technically plausible) extreme with his assertion that if you give him a lever long enough and a fulcrum on which to place it, he will move the world.

In organizational terms, we describe levers as the key areas where we exert influence in order to obtain a desired goal. A banker may talk about how she can leverage assets and debt to improve profits. A football coach may talk about how he can leverage specific strengths in his offense to score more touchdowns. A teacher may talk about how she can leverage formative assessment strategies to improve each student's learning.

When intent, effort, and results are aligned across a school's planning processes, the school accelerates toward a desired outcome with a level of efficiency and effectiveness that otherwise would not have been possible. We call this alignment the *leverage advantage*. For example, ensuring kids arrive at school safely and on time is important. To make this happen efficiently, schools use buses, schedule routes, and assign designated stops to ensure a dependable path toward the intended outcome. The alignment between intent and effort creates a leverage advantage to obtain the desired result of safety and punctuality.

Leverage Errors

In contrast to a leverage advantage, a *leverage error* occurs when intent, effort, and results are misaligned. Suppose an initiative were put on the table to improve student achievement by painting the buses a brighter color and having them drop students off on the other side of the building. Although the intent of the initiative—improving student achievement—is important, the effort required to engage in the recommended action would likely fail to affect student learning. This example illustrates an obvious disconnect among intent, effort, and results. If the intent is to improve student achievement, there are more efficient and effective ways to reach the intended outcome. But we *do* spend a lot of time in the field painting buses (metaphorically speaking) and expecting improved student learning. In his book *Visible Learning*, John Hattie (2009) reports the results of the largest synthesis of research ever conducted in the field of education. In his explanation of some of his most surprising—and most important—findings, he writes the following:

> One of the most fascinating discoveries throughout my research for this book is discovering that many of the most debated issues are the ones with the least effects. It is a powerful question to ask why such issues as class size, tracking, retention, school choice,

> summer schools, and school uniforms command such heated
> discussion and strong claims. Such cosmetic or "coat of paint"
> reforms are too common. (p. 33)

In other words, we are more prone to the leveraging error than we think. We argue that this occurs, in part, not because educators lack a shared model for talking about the *magnitude* of change we seek, but because we lack a shared model for talking about the components—or levers—within classrooms, schools, and districts that inform *where* we should focus our efforts to accomplish the change we seek.

Navigating Change

Whether you are leading change in your classroom, department, school, district, or state, change is always complex and rarely easy. A variety of researchers and authors (see, for example, Burns, 1978; Davidovich, Nikolay, Laugerman, & Commodore, 2010; Fullan, 2001; Hall & Hord, 2011; Heifetz & Linsky, 2002; Marzano, Waters, & McNulty, 2005) have made significant contributions to our collective understanding of the characteristics of different types of change and how change does—or does not—occur. Research and theory on change provide insight into two critically important areas: (1) the magnitude of the change and (2) the leadership practices associated with change. These two areas inform the outcomes leaders expect as a result of their planning and the leadership behaviors most likely to help the organization attain those outcomes. Unfortunately they do not provide guidance on how to determine which initiatives will most likely result in improved student learning so that the initiatives can be prioritized accordingly.

Magnitude of change describes the extent that the change requires individuals to use different knowledge or skills, or adopt new dispositions and ways of thinking in order to successfully move the organization forward. *Leadership practices associated with change* include the specific things that leaders do to help organizations balance the need for appropriate levels of challenge, so they can move beyond their current state, while supporting the development of the new knowledge and skills required for success. In addition, effective leaders are responsive to the people who are a part of the change. People tend to respond to change in fairly predictable ways. The more that leaders understand the needs people have when embarking

on a change process, how those needs differ depending on each individual's perception of the magnitude of the change, and the extent that those individuals believe the change will help them be more successful, the better leaders can ensure each person's success.

Researchers have developed various ways to think about magnitude of change, and their work can help leaders consider the extent to which they need to challenge and support the organization's capacity to move to the next level of practice; recognize the specific leadership behaviors that are more and less associated with achieving success across the magnitude of change; and consider the most effective strategy necessary to implement change. For example, Marzano et al. (2005) have made an invaluable contribution to the field by identifying specific leadership behaviors associated with what they call "first-order change" and "second-order change." Here is how Marzano and his colleagues characterize these magnitudes of change:

First-Order Change…	Second-Order Change…
• Is an extension of the past. • Fits with existing paradigms. • Includes existing knowledge and skills. • Is consistent with values and norms. • May be seen by others as obvious and necessary.	• Is a break from the past. • Lies outside existing paradigms. • Requires new knowledge and skills. • Conflicts with existing values and norms. • May be resisted by others as irrelevant.

Heifetz and Linsky (2002) succinctly describe the risks and opportunities involved in successfully leading "adaptive change" as opposed to "technical change." Here is how they characterize these representations of magnitude of change:

Technical Change…	Adaptive Change…
• Requires changes in routine behaviors and preferences. • Uses existing knowledge and skills. • Is directed from above. • Deploys existing competence in a different context.	• Requires new ways of thinking about the organization's work. • Requires changes in knowledge, skills, and dispositions. • Is internalized and implemented by stakeholders. • Recognizes that existing competence may no longer be relevant or adequate.

In this book we use the terms *transactional change* and *transformational change* as initially coined by James Burns (1978) because we believe they encompass many of the key concepts associated with both *first-order* and *technical change* as well as with *second-order* and *adaptive change.* We've also added a third component to help frame the ideas in this book: *status quo management.*

Planning for Status Quo, Transactional, and Transformational Outcomes

Schools are required to plan for hundreds of outcomes—for example, at the district and community level to determine the tax levy, or to establish a vision to guide the next 10 years of effort; at the building level to ensure elementary students understand how to line up on the recently reconfigured playground, or to establish building goals; or by a collaborative teaching team to plan an annual field trip to the state capital, or to develop a new instructional unit.

Regardless of the group engaged in the planning or the lever that they are attempting to use, we contend that planning involves one of three intended outcomes: maintenance of the status quo, transactional change, or transformational change. Figure I.1 lists the characteristics of these three outcomes, examples, and the types of questions often asked when working toward them. The extent of leaders' understanding of, and ability to articulate, the outcomes they are *planning toward* will influence the effort they put forth and the results they achieve.

Planning for maintaining the status quo occurs when people (1) consider the outcomes that result from current organizational efforts to be acceptable and (2) believe the associated processes are effective and efficient. Planning for the status quo largely entails practices associated with effective management, including clarity of tasks, delineation of responsibilities, and streamlined work flow. Developing a schedule for busing students in a new school year is an example of planning for the status quo. People are satisfied with the current processes and outcomes; the local bus service fulfills its role as designed, in that the buses pick up the children and deliver them to school each day. Each year a considerable amount of logistical planning needs to occur to maintain the status quo, including enrolling students, identifying children in need of services, communicating with the bus

Figure I.1 | Three Outcomes of Planning

Outcomes	Examples	Associated Planning Questions
Status Quo Management • Maintain existing expectations for performance • Maintain existing roles, structures • Maintain existing purpose, products, tasks • Emphasis on updating annual products and tasks	• "Rolling over" processes and procedures from the previous year • Keeping track of and tabulating grades in the same manner as in the past • Completing teacher evaluation processes and forms in the same manner as in the past	• What rules, processes, and procedures need to be followed? • What dates and deadlines must be met? • What information needs to be communicated so this runs smoothly again?
Transactional Change* • Exchange of skills or services valued by one group for rewards valued by another group • Group focus • Contingent rewards • Monitoring and corrective action	• Implementing a schedule change • Implementing a new way of tabulating and reporting grades • Implementing ratings from a new framework for teacher evaluation	• What new rules, processes, and procedures need to be followed? • What new dates and deadlines must be met? • What rewards and punishments will affirm or extinguish behavior?
Transformational Change* • Interaction among leaders and followers to increase capacity to meet the needs of others • Focused on the individual, to the benefit of the group • Attention to motivation • Intellectual stimulation • Supportive of autonomy	• Using class time differently to focus on rigor and student engagement • Teaching students strategies to set attainable goals based on formative assessments • Developing and using a shared language of effective instruction for teachers to use during self-reflection based on a video of their teaching	• How do we determine if students are engaged or merely compliant? • What do students believe to be true about the relationship between their effort and results? • What is the balance between formative and summative practices that supports teacher growth yet ensures accountability?

*The characteristics of transactional change and transformational change are based on J. M. Burns (1978) and B. M. Bass (1985).

company, matching children with the most efficient routes, telling parents when their child will be picked up, and so on. If all students are picked up, all the buses arrive on time, and the services work as well as they did the previous year, success means the status quo has been maintained.

Planning for transactional change requires addressing a different set of variables. Those involved in planning can draw on existing competence to facilitate the change, but a different set of transactions will need to occur to yield the same result. For example, due to lower enrollment and fewer students requiring bus services, nine bus routes may need to be consolidated down to six. This shift will likely involve significant planning and communication. It may require a change in terms of service with the busing company and will require different routes and pickup points and times than in the past. The skills used to create routes and communicate pickup information will continue to work, but the schedule will look different. Buses may pick up children significantly earlier or later than before. Although the adults had to engage in a different planning process and students had to adjust to a new schedule, the students' experience and outcomes remain largely the same. Success involves a different set of transactions that yield results that are similar to what was obtained in the past.

Planning for transformational change requires those implementing the change and those participating in the change to think differently about the nature of the work that they are doing. In addition, the previous skills and habits of mind are no longer useful or relevant. Extending the busing example, consider the transformational implications of planning the implementation of an online school. The concept of what it means to "bring a student to school" will require a completely new set of practices and a wide range of new beliefs by the adults involved in planning. Planning bus routes and communicating pickup times are suddenly irrelevant and are replaced by new conversations—and different types of strategic thinking—about what it means for a student to be *at* school. Students will need to reconceptualize what it means to be *ready for school*, *in class*, and *at school*. Adults and children will need to navigate an experience that used to be governed by seat time and is now governed by outcomes. The premise of the system has been transformed, but the most important transformations will occur in the perceptions of how the teachers see themselves as teachers and the students see themselves as learners.

"The Single Most Common Source of Leadership Failure"

In their book *Leadership on the Line*, Ronald Heifetz and Marty Linsky (2002) argue that "the single most common source of leadership failure is that people treat adaptive challenges like technical problems" (p. 14). We agree, and for the purposes of this book we shift the semantics to state that leadership failure is associated with treating *transformational* challenges with *transactional* solutions. In these scenarios, people confronting a problem look to leadership for a quick, simple fix—a new form to fill out, a different schedule, a new report card, a new textbook. Dozens of examples illustrate how enticing—and seemingly intuitive—transactional solutions can be: *If we just had different form, then we'd be able to change people's perceptions of the program. If the 3rd graders ate lunch earlier, then math scores would improve. If we had a new report card, then concerns about grading would go away. If we could put all the kids with characteristic X in the same classroom, then achievement would improve.* In each of these scenarios, an external portion of the equation is adjusted so that people can maintain the status quo or engage in a different set of transactions with the hope that others will change their behavior and obtain better results.

Education is littered with well-intended transactional solutions to problems that, in reality, require transformational changes in practice. Too often, the surface-level changes that were implemented resulted in neither improved organizational capacity nor improved student learning. Here, the leveraging error is the result of a misconception of the magnitude of the challenge; the lever was too short to generate the force required to transform practice. But what about scenarios in which significant efforts for transformation were sought and the desired results were obtained, yet students' experience remained unchanged?

Where Will the Change Occur?

Treating transformational challenges with transactional solutions is only one way that school leaders' significant efforts do not leverage organizational capacity to influence student learning. Another critical dimension to this challenge is the *where*—that is, where within the organization the leader attempts to implement change. It is not only the size of the lever that

must align to the magnitude of change; the lever must also align to the area of the organization where the intended and the enacted change will provide the greatest advantage. Without a framework for thinking clearly about the magnitude of change and the area that will provide the greatest leverage to make that change possible, it is easy to miscalculate both the size of the lever and its placement. This miscalculation is not exclusive to overworked department chairs or novice principals. Everyone is subject to these leveraging errors.

Case in point: In 2000, the Bill and Melinda Gates Foundation embarked on a $2 billion quest to improve high school graduation rates. Educational historian Diane Ravitch (2010) explains the essence of the foundation's strategy as follows:

> The Gates initiative began when the small-schools movement had become the leading edge of school reform in urban districts. The movement's ardent adherents believed that small schools were the cure to the problems of urban education. They said that students got lost in large high schools, that they would respond positively to the personalized attention they received in a small high school, and that they would thus be motivated to study, stay in school, graduate, and go to college. The foundation agreed with this diagnosis. (pp. 204–205)

In essence, the foundation's logic was this: If students attended smaller high schools, then their achievement would improve and they would be more likely to graduate. By 2008, the foundation abandoned its strategy of small-school reform. Results showed some increases in attendance rates but lower test scores in mathematics and reading. As Ravitch explains, the foundation acknowledged that its "emphasis on school structure" was not sufficient to invoke the changes required to improve achievement and career readiness (p. 211). In this scenario, the foundation addressed a transformational challenge through a transactional solution. Schedules were changed, schools were broken into smaller component parts, but students' learning experiences remained largely the same.

Although the intent was to create school environments that were more caring, the initiative was conceived to address a structural problem (schools are too large), and the most pervasive efforts were directed toward

the goal of creating smaller schools. Although the school structures were indeed transformed, the core components of student experience merely extended the status quo.

Going back to our earlier kitchen analogy, not only do we educators continue to remodel the kitchen, we're continuously surprised that the food does not taste any better. The paradox of education reform is this: *The levers that are good at changing schools are often least associated with improving student learning.* In other words, too often we remodel the kitchen when we would have had more impact if we had simply put some salt and pepper on the table.

The Five Levers

We've all been there. We reach the point at the data retreat or the strategic planning meeting when it is time to stop describing areas of need and start identifying solutions that will improve student learning. Ideas put on the table may include smaller class sizes, more instructional time, a different schedule, better methods of identifying students for specific programs, or a new report card. All of these options carry the potential for significant change. They seem like logical steps toward improvement. Unfortunately, each of these suggestions likely will fail to produce significant improvements in achievement. As good as they sound, they miss—or fail to prioritize—the characteristics of initiatives that result in improved learning.

In working with students, educators, school boards, and policymakers, and in conducting and using research throughout our careers, we've found that ideas and efforts to better leverage our capacity to address student needs can be placed into five categories. These categories, or levers, reveal an often hidden framework for thinking about how educators at the individual, team, classroom, and district levels can leverage capacity and scarce resources to respond to student needs. The five levers are *structure, sample, standards, strategy,* and *self*. *Structure* refers to logistical components such as schedules, bells, and class size. *Sample* involves grouping of students in classrooms, programs, or learning opportunities at any given time. *Standards* include practices associated with expectations for student learning. *Strategy* refers to instructional strategies used to manage classrooms and engage students in meaningful learning experiences. *Self* includes the set of beliefs that teachers and students have about their capacity to be effective.

Each lever holds varying degrees of potential for improving student learning. Awareness of these levers can position leaders to see underlying patterns in the innovations they are considering and chart a path for more mindful, strategic, and effective organizational change. Ignoring this framework can lead to disappointment, frustration, and waste. Figure I.2 defines the five levers, lists some examples, and considers the types of planning questions associated with each of them.

In this book we argue that educators too often seek to improve student learning by engaging in misguided efforts to leverage change in schools; they adjust the structure, manipulate the sample, and even articulate new standards. Initiatives associated with these efforts will fail to yield results unless they (1) are aligned with and directly influence the connection between *standards* and instructional *strategies* used in classrooms and (2) address and build students' and teachers' conceptions of *self* as related to their capacity to achieve.

Prioritizing Efforts and Resources for Change

In our efforts to improve student achievement, where should we invest our attention, time, and resources? It is not enough to understand how to navigate and lead change, to have the resources to move initiatives forward, and to work extremely hard and be extremely dedicated. Improving schools requires us to apply our energy to efforts most likely to result in improved student learning. It is not merely doing the right work; it is aligning our work to the outcomes we seek. Some levers are well suited to creating conditions for learning but do nothing to *improve* learning. Some levers are associated with consistent, significant gains for students but are prone to the limits of the status quo and the limits of transactional leadership. Knowing which levers to pull has a tremendous impact on the results we achieve and the efficiency with which we achieve them.

Where We're Headed

The purpose of this book is to present and make accessible to educators, policymakers, and other stakeholders a framework to organize and prioritize initiatives that can improve student learning. It provides a way to distinguish between the practices most likely to improve student learning as compared to efforts that require attention, time, and resources but provide

Figure I.2 | Overview of the Five Levers

Lever	Examples	Planning Questions
Structure—Logistical components of districts, schools, and classrooms, such as schedules, staffing, and administrative processes	• School size • Class size • Annual calendar • Daily schedule	• Where should we deliver teaching? • How long should it be delivered? • What logistical issues need to be addressed?
Sample—Grouping of students in any classroom or program at any given time	• Heterogeneous vs. homogeneous grouping of students • Gender-separate classes • Access to accelerated programs	• Who should have access? • Where should specialized services be delivered? • Who should be grouped with whom?
Standards—Expectations for student learning	• State academic standards • School-level criteria for student performance • Classroom and teacher expectations for quality work	• What should be taught? • How good is good enough? • How will we know what has been learned? • How will feedback inform next efforts?
Strategy—Any one of the practices teachers use to help students deepen their understanding of content and improve their ability to use important skills	• Instructional strategies for whole-class instruction • Instructional strategies for individualized instruction • Efforts to empower students as agents in curriculum, instruction, and assessment	• How will we teach? • How will we know students have learned? • How will we build on student strengths? • How will we provide appropriate challenge for learners? • How will we provide appropriate support for learners?
Self—Beliefs that teachers and students have about their capacity to be effective	• Teacher efficacy • Autonomy support • Student confidence • Learned helplessness • Stereotype threat • Growth mind-set	• What do teachers believe to be true about students? • What do students believe to be true about teachers? • What do teachers believe about their capacity to meet student learning needs? • What do students believe about their capacity to learn?

little or no leverage to improve student learning. The chapters that follow define and describe the levers we pull to improve student learning: structure, sample, standards, strategy, and conceptions of self. We provide examples of efforts typically associated with each lever, describe their respective opportunities and pitfalls, and argue for using the levers to more mindfully engage in inquiry and action that will yield improved results. Finally, we share ways to use the five levers as you consider how to prioritize initiatives to begin, initiatives to sustain, and initiatives to let go of by describing how thinking about a campfire, a penguin, a bicycle, and a kitchen can guide educational stakeholders through the complexities of change.

If you are contemplating an educational initiative, reform effort, restructuring, or new policy, we urge you to read this book first. Not only will you be able to more insightfully evaluate proposed initiatives, you will know the questions to ask and you will be able to evaluate whether the work is on the right track. As you seek to improve schools and learning, you will be able to focus your efforts more clearly and be in a better position to achieve success.

1
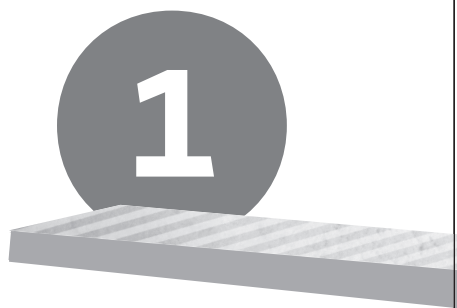
Lever 1: Structure

Vignette 1: Traditional or Block Schedule?

Frustrated with levels of achievement and attuned to teachers' concerns that kids are disengaged from their learning, a principal decides to implement a block schedule. A study committee is formed to make recommendations for either an A/B block schedule or a 4×4 block schedule. The committee convenes and six months later offers a recommendation for the 4×4 option. On the night of the initial hearing at a school board meeting, a number of parents come forward to speak against the plan. They explain that a neighboring community tried a block schedule, which resulted in a major change in the schedule for two years, followed by a reversion to the traditional schedule a few years later. A teacher representative expresses concerns about the impact of the change on planning time for some teachers. Almost two years after the principal's initial efforts, the community and the board are still discussing and debating the new schedule. It has become a divisive matter (prompting frequent letters to the editor in the community newspaper and argumentative exchanges via blog posts) and the central issue of the upcoming school board election.

Vignette 2: One-to-One Computing

In an attempt to ensure that every child is adequately prepared for the 21st century, a district undertakes an initiative to provide every student with a laptop computer. With a high level of community support, the

district begins a multiyear process to purchase 5,000 laptops. The following school year it distributes computers at four pilot sites. Within a month, teachers are able to provide abundant anecdotal evidence that technology gaps among students of different economic groups have been largely addressed. More students can practice computer skills and have access to a broader range of academic resources than in the past. However, two years into the initiative, student achievement scores are unchanged, as are achievement gaps on statewide accountability tests between students of different economic groups. Several board members are concerned about the initial results and ask administrators for formal documentation that the investment is improving student achievement before continuing with the next phases of purchase and implementation.

Structure: Definition, Misconception, and Opportunity

Definition: *Structure includes logistical components such as staffing, tools, and administrative processes.*

Structural changes at the building level could include a shift to a block schedule; at the district level they could include a shift to smaller high schools; at a macro level they could include implementation of a voucher or choice system, or a districtwide move to year-round schooling. Changing structure is highly visible, and often highly political, but this type of change is enticing because it is apparent for all stakeholders and often can be articulated in a linear planning process that includes specific dates for implementation.

Misconception: *Focusing on a change in structure results in an improved learning environment.*

If all you knew about a school was that it used block scheduling or had small class sizes, what could you tell about the quality of that school? What if you knew it was a charter school or a small high school? Time and again, research shows little or no difference in student learning based on structure (Bifulco & Ladd, 2006; Milesi & Gamoran, 2006), and those studies that do find a significant effect for structural interventions often attribute the gains in student learning to changes in classroom practice associated with the change in structure—*not the structure itself* (Patall, Cooper, & Allen, 2010; Penuel, 2006). Structure tells us nothing about the quality of the processes, practices, and relationships at the classroom level where learning occurs.

Opportunity: *When thinking about structure, form should follow function.*
Structure is *related to* conditions for learning but rarely has any *effect* on student learning. Changing school structure results in increased student learning only under four conditions: when it (1) supports the use of more effective instructional strategies, (2) allows for more responsive use of strategies to benefit specific groups of students, (3) removes barriers in the way of learning opportunities for students or commitments among staff to collaborate on behalf of student learning, or (4) empowers staff and students to better realize their capacity to teach and learn.

The Lure of Structural Change

We contend that there are two reasons why structural change is so enticing. Both are rooted in powerful mental models of where leadership should exert effort to gain leverage in creating change. The first reason is related to beliefs about standardization, as exemplified by the persistence of an assembly-line mentality among many educators; the second is related to beliefs about change that pay too little attention to the complex human dimension that is involved.

From Teachers as Artisans to Schools as Assembly Lines

In the mid-1800s, the one-room schoolhouse was the dominant structure of education in rural areas of the United States. Given a building with a single classroom and a teacher, small towns and rural areas could educate a group of children across a wide range of ages. The role of the teacher was analogous to that of an artisan; she would work with each student or small groups of students, tending to each component of their development over an extended period of time until the final product emerged. Students, too, were tapped to support the learning of other students across grades and achievement levels.

The one-room schoolhouse was replaced by a 20th century model of schooling that called for greater efficiency through specialization. This model is analogous to the factory assembly line in terms of the underlying assumptions related to technical and mechanical components of efficiency. Just as a factory could be tooled to produce a complex mechanical product by allowing line workers to specialize in a specific portion of the production process, a school could produce an educated student by allowing teachers

to specialize in a specific portion of the educative process. As students "rolled through" their schooling experience, specialists would add various parts or components along the way. If all went as planned, students would emerge at the end of the line as finished products.

The impact of the assembly line on how we think about schooling cannot be overstated. The intent was to remove the human factor from the manufacturing process. Standardization, efficiency, and automaticity drove innovation and practice. The very definition of an effective manufacturing process was that it could be staffed by almost anyone who had received a minimal amount of training and still produce a uniform product. If management wanted to change the product that came off the line—for example, to produce a new model of an automobile—significant structural changes needed to occur first. Changes in the structure of the line resulted in a change in the manufacturing process, which resulted in a different product. A direct cause-and-effect relationship linked each of these steps. Retooling the line meant an outside group would come in and undertake the necessary technical changes. Workers then came back in and engaged in processes and tasks similar to those they had used in the past, yet an entirely different product would roll off the line. Although some minor adjustments may have been necessary by the workers, the time, effort, and energy invested in retooling the line resulted in the new, desired product—*every time*. In other words, leveraging the *structure* of the manufacturing process resulted in an extremely efficient change in outcomes.

Assembly-Line Thinking and the Limits of Structural Change

Obviously schools are not factories and children are not products. Yet many educators and policymakers have an assembly-line mentality when they think about processes and outcomes related to student learning. Consider the case of the Global Prosperity Academy—the small-school restructuring effort described in the introduction to this book. In an attempt to create new outcomes for students, the district pulled on the structural lever to get different results. But unlike structural changes to the assembly line that are designed to be independent of human factors, each of these changes at the school will be effective *only if teachers and students interact with one another in different ways because of the structural change*. Through the lens of the five levers, we can gain a deeper understanding of the assumptions and

actions that influenced the process and the eventual outcome exemplified by the Global Prosperity Academy:

- The "assembly line" was retooled from a larger school to a smaller school, yet a *structural* shift to a smaller school will have an effect on student learning only if teachers use the shift to create *samples* and implement *strategies* that capitalize on personalized and customized opportunities for teaching and learning.
- The report card was retooled from a traditional approach to a standards-based approach. The switch was merely a *structural* change in the reporting process; the effect of a standards-based report card is accelerated or limited by the extent to which it supports a standards-based system of teaching and learning. Such a system would include powerful, research-supported practices of (1) clearly articulating *standards* in student-friendly language, (2) using assessment formatively as a *strategy* to ensure developmental feedback and goal setting to help students learn, and (3) ensuring students develop a sense of *self-agency* by helping them connect the relationship between their effort and resultant learning (Stiggins, 2004). Further, when teachers help students to see the purpose and usefulness of what they are asked to learn, show them how to achieve mastery, and give them a measure of autonomy in how they will learn, students are more likely to commit to learning and to respond to a grading approach that is aligned with their effort and the progress they achieve.
- Textbooks were retooled as laptops, yet a *structural* shift from textbooks to laptops has little effect on student learning unless teachers have a firm grasp of how to use *strategies* that support technology as an instructional and learning tool and believe in the efficacy of using digital tools to improve student learning (Mouza, 2008).

As in the age-old riddle about the tree falling in the forest, we must ask ourselves the following question: If we've engaged in significant change efforts but students don't have a significantly different learning experience, has anything really changed? In the next sections we consider just a few examples of structural changes that have received a lot of attention in recent years—acquisition of technology, school choice, and increased seat time—and place those components into a broader context through the five-lever framework.

Technology as a Structural Lever

Over the past three decades, schools and districts have spent billions of dollars on technology. Early iterations included having students use computers for drill and practice on skills. Computers have been presented as a way to increase student engagement, and the Internet was seen as a way to liberate students from textbooks and give them access to the world's knowledge. Some even thought that computers and other technology tools would replace teachers.

Almost every school and school system has invested in building the technology skills of teachers with the hope that their growing competence would mean greater integration of technology into instruction and increases in student learning. Technologies such as interactive whiteboards have been a favorite focus of parent groups and other fundraising organizations, and more recently, many school districts and some states have invested in laptop computers for every student, betting that if students have greater access to technology they will learn more and teachers will more completely transform their instructional practices to take advantage of technology tools. For many people, virtual and blended instruction has been the approach of choice to deliver on the promise of technology to increase student engagement and improve learning.

Faulty Assumptions About Technology and Learning

Unfortunately, despite the billions spent on technology, there is little evidence that the investment has paid off in a more powerful manner than most other interventions (Tamim, Bernard, Barokhovski, Abrami, & Schmid, 2011). The belief in technology as a driver for education reform rests on several assumptions: technology will increase the efficiency of instruction and thus lead to more learning; technology will make instruction more effective or at least more engaging; and giving students greater access to technology will result in their having greater ownership of their learning and thus better outcomes. Each of these assumptions seems reasonable, but technology has not been proven to have the intended impact.

It is correct that technology has increased efficiency in some areas of school operation. A wide array of administrative tasks, from budget management and library media organization to student attendance, has become more efficient, but these processes are not directly connected to student learning. Technology has enabled teachers to develop and store lessons

and related documents digitally, thus making retrieval and updating more efficient; but again, these changes do not, by themselves, increase student performance.

Technology's role in making instruction more effective and engaging is also questionable. Lecture remains the most common instructional delivery mode in the United States. Lessons may be supported by PowerPoint presentations and digitally stored videos, but these approaches retain and depend on the legacy instructional model. Without changes in the strategies teachers use to deliver and support instruction, too often technology simply changes the platform for instruction, *not the instruction itself*. Consequently, the results have not changed. At the extremes are teachers who use interactive whiteboards in the same way they once used chalkboards, or computers as a means for students to complete worksheets, but now with a digital platform. Obviously, deploying technology in this manner holds little potential for increased student learning.

Similarly, the assumption that giving students their own technology will increase ownership of learning and result in increased performance misses the point. Ownership of learning—which is, indeed, important if we want to significantly raise student performance—is embedded not in the technology itself but in the processes and strategies that allow students to take full advantage of technology and to exercise a measure of control over what, how, and where they will learn. If we operate within a system of legacy formats and traditional expectations—so that students are expected to comply in response to problems teachers develop and to complete tasks generated without consideration for their interests, current level of learning, and readiness for new learning challenges—it should not be a surprise that they do not necessarily feel ownership of learning.

It is not necessarily the case that technology lacks the potential to increase student learning. Examples of technology dramatically transforming and elevating the performance of other organizations and industries are many. However, the role technology has played in the transformation elsewhere is very different from what has happened in education. Technology was not considered a tool for efficiency alone or a means to better engage the client, although these elements often are by-products of the transformation. The transforming role of technology in other enterprises has been to facilitate and support deep rethinking and reorienting of the core work (think Amazon.com as compared to traditional bookstores). Technology

made transformation possible. It was not seen as a tool to be integrated into work performed in much the same way it had been done in the past.

Moving from Transactional to Transformational Use of Technology

Realizing technology's promise will require rethinking and redesigning the intersection of teaching and learning to maximize the benefits it has to offer. In its current iteration, technology is primarily treated as a structural solution, driven by the notion that by changing structure we will change core behaviors. Technology holds the potential to support other efforts but does not offer high leverage for change by itself. As Rana Tamim and her colleagues (2011) conclude in their meta-analysis of 40 years of research on the impact of technology on student learning,

> It is arguable that it is aspects of the goals of instruction, pedagogy, teacher effectiveness, subject matter, age level, fidelity of technology implementation, and possibly other factors that may represent more powerful influences on effect sizes than the nature of the technology intervention. (p. 14)

The leverage in unleashing the power of technology lies in first developing a set of strategies that hold the potential to transform the way we think about and approach education and learning in the United States. We need to move beyond the transactional, lock-step approach that assumes 180 days of seat time equals one year's growth in learning. A system that is not designed or capable of responding to individual learning needs and readiness too often holds some students back while pushing others forward before they have learned core skills and strategies. We need a system that is customized to the point where engagement, agency, flexibility, and success are built in from the beginning rather than withheld until students fail, at which point we then attempt to remediate or otherwise intervene—a strategy that too often falls short and sends a message to learners that *they* are flawed.

When educators redesign teaching and learning to position the learner at the center and customize the instructional approach to meet learners' needs, we will be able to employ technology to support learning in ways that unleash potential; that ensure that learners are presented with tasks, content, and skill development that are relevant and appropriately calibrated to their learning needs; and that deliver on the promise of increasing

student learning. However, this transformational—rather than transactional—approach must begin with the use of technology to support the correct instructional *strategy* rather than attempting to enhance an approach that lacks the leverage necessary to lift student performance beyond small increments and to significantly accelerate the pace of learning.

School Choice as a Structural Lever

Letting families and students choose where they will attend school has been promoted as a so-called silver bullet for improving education. The underlying assumption is that by promoting competition and a free market, the quality of education will improve. Stated another way, the problem with the current education system is that it enjoys too much of a monopoly and therefore has become unresponsive to pressures for change. A related assumption is that by expanding opportunities to create schools outside *the system*, innovation will flourish and performance will improve. The larger educational system will then respond by adopting key innovations in an attempt to better position itself to compete. Still another assumption has been that parents will be savvy in choosing schools and gravitate toward options that provide the best educational opportunities for their children.

Again, the promises of this approach have largely gone unrealized. After more than a decade of increased choice options, whether through charter schools, home schools, or voucher programs, the overall performance of the education system has barely changed. Equally significant, there is little evidence to support the argument that the institutions representing choice offer better learning outcomes overall. A 2009 study by the Center for Research on Education Outcomes (CREDO) concluded that charter schools as a whole produce no better results than the system they were supposed to surpass. Certainly many charter schools do better than many noncharter public schools, *and* many public schools outperform many charter schools; but when considered as a group, charter schools have not delivered significantly improved performance.

The picture is much the same when considered from the perspective of increased innovation. For the most part charter schools continue to educate students using the batch-processing approach of grouping students by age into classes taught by a single teacher with little regard to student

readiness, preferred learning approach, or learning modalities. Other aspects of teaching and learning interactions continue to mirror traditional processes used in existing public or private schools. The consequence, unsurprisingly, is student learning results that are comparable to student performance in the noncharter schools.

A recent study of the Milwaukee school voucher program (Witte, Carlson, Cowen, Fleming, & Wolf, 2011) painted a similar picture of student learning outcomes. Students in voucher schools are not performing better than their counterparts in the public schools from which they came. Unfortunately, too many voucher schools have taken advantage of the lack of regulation to create revenue for founders at the expense of students and learning, even to the extent of creating "shells" masquerading as schools to collect public money. Until recently, voucher schools were not subject to any learning-related accountability, so comparing student performance was confined to graduation rates and other measures that often bear little meaningful relationship to high-quality learning. The lack of distinguishable performance among voucher schools compared to their public school counterparts further undermines the assumption that deregulation and choice alone will increase performance.

The assumption that parents will make choices based on educational quality also has not been universally supported. Although some parents actively and thoughtfully compare school performance and use it as the driving factor in the choice they make, many choose based on convenience and other factors not related to education, thus undermining the assumption that choice will influence quality.

The "bet" associated with choice as a school reform approach relies on a change in *structure* as a means to change behavior and resulting performance. However, this approach fails to focus on the core work of schools—teaching and learning—apparently assuming that the intersection between the two will somehow be changed and generate better outcomes as a result of a different structure. Although one can argue that structural changes may be necessary to facilitate and support changes at the core of the work, changing structure alone, as attractive and intuitive as it may seem, does not provide the leverage necessary to improve performance significantly, in a sustained manner, and at scale.

Seat Time as a Structural Lever

In a report on the effect of extended learning time in high schools, Hilary Pennington (2006) of the Center for American Progress describes the promise of longer school days and school years for students. In the report, she advocates that state governments consider experimenting with and implementing some "out of the box" extended-time strategies and encourages the creation of charter schools to adopt extended-time models. Secretary of Education Arne Duncan articulated his support for extended school time in a 2009 *Time* magazine article, stating, "I think the school day is too short, the school week is too short, and the school year is too short.... You look at all the creative schools that are getting dramatically better results. The common denominator of all of them is they're spending more time" (Stengel, 2009). Intuitively, this makes perfect sense. If some time in school results in some learning, shouldn't more time in school result in more learning?

Hundreds of schools have responded to this call. A recent article from the Center for American Progress (2010) reports that more than 650 schools in 36 states have engaged in extended-learning-time initiatives in recent years.

In their systematic, comprehensive review of the literature on extending the school day or the school year, Erika Patall, Harris Cooper, and Ashley Batts Allen (2010) sought to synthesize the research on the effect of extended school time on student learning. They articulate three conclusions: (1) there may be a small, positive effect on student learning associated with extended school time; (2) there is little risk in decreasing student achievement by extending school time; and (3) students at risk of failing may derive additional benefits from extended school time. However, Patall and her colleagues qualify their findings with the following explanation:

> How school time is used determines the effect of additional time on achievement. That is, the content and instructional strategies used in school are paramount to the success or failure of extending school time. It is only common sense that if additional school time is not used for instructional activities or if additional

> instruction is of poor quality, it is unlikely to lead to achievement gains. In fact, if additional time is not used properly and school is experienced as boring or as punishment rather than as an enriching learning environment, it could lead to even undesirable student outcomes such as student fatigue or low motivation.... That is, the effectiveness of instruction might determine whether extended school time has positive, negative, or no effects on student outcomes. (p. 430)

These caveats are critically important. In other words, the leverage that structure provides is not a means to an end, but only provides a set of potentials that *may* be exercised to more effectively address other levers. We contend that this is true of all structural efforts. By their very nature structural changes are transactional. Assuming a change in structure will result in a change in student learning experience is *the* ubiquitous leveraging error. Educators need to pull other levers to fulfill the opportunity that any structural change may present.

Efforts to pull the structural lever of time are a response to the following question: How might achievement improve if we add more time to the school day? This query ignores the more powerful questions associated with strategy, standards, and self: How do we currently use instructional time (*strategy*)? How have we aligned expectations to ensure clarity of focus in our use of instructional time (*standards*)? To what extent is instructional time meaningful for all types of students (*self*)? Is our expectation for time-on-task that students are quiet and compliant, or that students are actively engaged in work they believe to be meaningful (*strategy, standard, self*)? These questions are at the core of the work we do as professional educators and at the core of student experience in the classroom. Until we've addressed, and maximized, our best collective efforts related to strategically addressing these questions, it is doubtful that additional learning time will result in significant improvement in student learning.

We've heard dozens of superintendents, principals, and teachers claim that structure must precede strategy: "We have plans to focus on technology and career skills by starting a new technology and career charter school," or "We can't increase collaboration until the board approves late start times," or "We can't use an instructional intervention program until the bus company changes its schedule." Changes in structure may require

a lot of administrative effort, cause a stir in the community, and necessitate board action 18 months before the changes can even take place. However, we argue this type of thinking limits educators' capacity to focus on more accessible—and more important—levers. The standards of quality expected for student work, the instructional strategies used to teach to those standards, and the way we interact with students on a daily basis to inform their self-perceptions as learners—efforts in these areas can start well before any of these structural changes are put into place.

To be clear, we are not arguing that structure and resources are unimportant. Without clear and aligned structures and adequate resources, learning opportunities can diminish and student achievement can suffer. Our argument is that having adequate or even abundant resources and well-formed and supportive structures will not, by itself, produce the leverage necessary to significantly increase and sustain high levels of student learning.

Structure: A Recap

In this chapter we've argued that using a change in structure as a lever for increased student learning rests on a false set of assumptions. Schools can engage in massive restructuring initiatives, yet student learning experiences can remain largely the same. Structural components are related to establishing conditions for learning, but standards, classroom strategies, and conceptualizations of self will need to be leveraged more effectively and efficiently than in the past for any restructuring effort to have a marked effect on student learning. Because structural change emphasizes clearly defined parameters and components that are easy for adults to define and discern but fail to significantly change the experience of the learner (for example, we used to have class for 51 minutes a day and now we have class for 54 minutes a day), changing school structure frequently results in a leverage error.

Connecting Structure to the Chapter Vignettes
Let's return briefly to the vignettes that opened this chapter. Each of them tells us something about the role structure often plays in school planning and the consequences of common misconceptions.

Reflections on Vignette 1: Traditional or Block Schedule? The principal in the first vignette is concerned with critical outcomes: student achievement and engagement. However, a schedule change does not ensure any effect on these outcomes. Considerable time, effort, and energy have been invested in addressing the structural change as *the* solution, and the structure-driven initiative has consumed two years of meetings, professional development, and resources that could have been invested in considering strategies to increase student engagement.

Over the years Jim has worked with a number of school districts that implemented block scheduling only to find that expected outcomes were not forthcoming. Unfortunately, the focus too often was on changing the time structure without corresponding changes in the ways students experienced learning and teachers used instructional strategies. As a result, learners were exposed to fewer classes per day, but not necessarily higher-quality learning experiences in those classes. Administrators became consumed with the logistics of the change in student scheduling. Teachers typically adjusted old lesson plans, activities, and approaches to the larger blocks of time but were unable to place students at the center of learning any more than with the previous schedule. Sadly, in some cases teachers not only did not change their instructional strategies but continued to present content to students as they had before the change and simply gave students study time during the remainder of the block—thus actually decreasing the amount of engagement in learning.

Reflections on Vignette 2: One-to-One Computing. In the second vignette, the district has addressed the structural issue of a technology gap in a manner that appears to have resolved an important equity issue. What is less clear is the extent to which the pilot schools are using different instructional strategies to leverage the new technology in a manner that will increase student learning. Furthermore, there is an assumption that access to technology results in higher achievement scores, but the standards for a 21st century learner are not necessarily synonymous with the standards aligned to a statewide achievement test.

We have seen a common pattern over the past decade in which investments in technology come with the expectation that new tools will increase learning as reflected in achievement test scores. The result typically has been an initial increase in student enthusiasm and engagement, followed by a return to previous patterns—*unless* teachers use instructional strategies

that substantively integrate and leverage the new technology to change the experience of learners in ways that incorporate new learning skills, build independence, and extend learning opportunities. Narrowing the gap in access to technology is of little value unless educators tap the potential of the technology to support teaching and learning in ways that accelerate, deepen, and expand academic and other opportunities for students to increase their skills. Finally, technology can be a point of frustration rather than liberation for teachers and students unless adequate resources are available to ensure that the technology is widely accessible and highly reliable.

Connecting Structure to the Global Prosperity Academy

In the introduction to this book, the emphasis in the opening case about the Global Prosperity Academy was on structural, transactional changes: a smaller school, smaller class sizes, more computers, different report cards. The underlying assumption was that by making changes to the *school*, students would have a markedly different classroom experience that would result in improved learning. However, *a change in structure is not a change in strategy*. Changes in structure are prone to the leveraging error because the logistical components of structural change can consume time, energy, and resources that detract from the reason the change was put on the table in the first place.

Connecting Structure to the Kitchen Remodeling Analogy

When we think about remodeling, we are literally thinking about a process of taking existing structures and rearranging or changing them. Assuming access to basic structural components in the existing kitchen (such as a stove and a refrigerator), when we remodel we're really talking about using existing space differently or more efficiently. The central premise of the form, the function, and the materials used in the kitchen do not change; they are merely reconfigured. Although these technical changes in the structural components may result in a more aesthetically pleasing kitchen or a more convenient use of space, they do not improve the skills of the cook or the quality of the food. Too often when we engage in significant change efforts in schools, we reconfigure the structural components but do not transform the components that are most likely to improve the quality of student learning.

Doing Less, Doing More

To leverage structure effectively requires us to behave in certain ways. We must do less of some things—in essence, break ourselves of old habits and rid ourselves of persistent misconceptions; and we must do more of other things—namely, take actions and pursue strategies that are truly productive as we move toward our overarching goal of improved student performance. Figure 1.1 summarizes our recommendations for changes in behavior related to structure.

Figure 1.1 | Leveraging Structure

Do Less of This	Do More of This
• Assuming that a change in structure will result in a change in students' learning experiences	• Acknowledging that changes in structure merely create a set of opportunities to more effectively deploy practices designed to leverage standards, strategy, and conceptualizations of self
• Articulating changes in structure as the goal	• Clarifying that changes in structure are a means to the end of more effectively serving students' learning needs
• Waiting to change standards, strategy, or conceptualizations of self until after changes in structure have occurred	• Deploying strategies to actively leverage standards and productive conceptualizations of self as a matter of best practice that can occur in any classroom, on any day, at any time
• Assuming that a transactional change in policy or practice will result in a transformational change in teaching or learning	• Acknowledging the time and complexity of implementing transformational change
• Focusing on grand, district-level initiatives as the important agent in change	• Focusing on district- or building-level initiatives that acknowledge and support each teacher's classroom practice as the important agent of change

Reflecting on Structure: Questions to Ask on Monday Morning

- What drives the school structure? Tradition? Bus schedules? Adult convenience? Student learning needs?
- What amount or percentage of time do I or others in my school or district spend talking about structural changes as *the* primary lever associated with articulating concerns or creating new learning opportunities for students?
- When looking at agendas for board, faculty, team, and other meetings, to what extent do agenda items and meeting minutes deal with time, schedules, and logistics?
- To what extent is the implementation of specific structural changes discussed as *the goal* of initiatives in my school or district? Is adopting structural practices such as implementing a block schedule, adopting a new report card, or acquiring technology described as the goal or as a means to support more effective instructional practices?
- To what extent do we find ourselves waiting to address strategic opportunities or learning needs because we are waiting for structural components to fall into place (for example, we can't use new instructional strategies until new materials arrive; we can't spend more time talking about student performance on assessments until late-start collaborative time begins)?
- To what extent do we expect that structural change will result in a better learning experience for students or increased learning? How do we monitor the results of these structural changes in terms of their effect on students?
- If we are not achieving the results we hope to obtain under the current structure, are we attempting to address the problem or create better opportunities by reconfiguring more of the same structures and, by extension, largely maintaining each student's experience (through such things as longer class periods and summer school as a replication of the regular school year)?
- What is the relationship between the cost of this structural change—in terms of dollars, time, political chips, and other factors—and the expected results? Are there more direct, and more cost-effective, ways of addressing this issue?

Look at the tables in Appendix D related to status quo, transactional, and transformational planning questions and examine the questions associated with structure. What types of questions do you typically hear in your school or district related to structural changes? What types of questions do you typically ask?

Structure from the Students' Perspective

- How will the change in structure change students' learning experience?
- What connections will students be able to make between the changes in structure and new opportunities to improve their learning?
- How might students complete this prompt if the structural change is implemented effectively? *Before this change, I used to_____, but now I_____.*

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