Introduction

Transformation

Moving a School District Into a Learning System

A seasoned educator has just become the new superintendent of a district that has 3,100 students in one preschool, three elementary schools, one middle school, and one high school. About 10% of the families qualify for free and reduced lunch, and the quickly changing student population is about 20% students of color. For the past five years, the town government did not have sufficient funds to match the rising costs of contractual obligations, special education, utilities, and health benefits. The increases in these budget areas often averaged 4% to 10% annually, while the school revenues remained constant or increased by 1% to 2%. This yearly gap between revenues and costs frequently resulted in staff reductions and program eliminations.

Most recently, the district eliminated 22 positions, and class sizes approached 30 students in most elementary classes. Families were burdened with a $400 fee for bus transportation and nearly $300 per sport for students to participate in high school athletics. There also were fees for student drivers to park their cars ($150), for elementary students to participate in an after-school play ($50), and for middle school students to enjoy after-school activities ($100).

The middle school had so few enrichment courses that the one remaining art teacher had over 600 students. In order to fill the holes left in the schedule from staff reductions, study halls multiplied, with the largest containing 120 students during the lunch block. This "study hall" was in the gymnasium, where young adolescents sat on the gym floor for the period.

The funding gap also affected contract negotiations. Five different union contracts expired right before the superintendent started. In order to prevent further staff reductions, the school board couldn't offer a cost-of-living increase

> *to teachers, custodians, secretaries, or food service workers. Morale was low, particularly among the custodians, who manned a picket line because the school committee was considering outsourcing their jobs. In the face of such a stark outlook, many veteran administrators and teachers retired early, and the new superintendent had to hire three principals, five department chairs, and a director of curriculum, instruction, and technology. This represented a significant upheaval for a relatively small district.*
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> *One of the schools in the district was placed in corrective action by the Department of Education because it had not met its adequate yearly progress (AYP) scores for several consecutive years.*

This real scenario (D'Auria, 2009) contains elements that are typical of the problems that confront superintendents in small, medium, and large districts. And while there are no easy formulas or guaranteed approaches to ensure a successful turnaround, the process will nonetheless resemble the efforts and interventions of skillful teachers working with students in their classrooms. Similarly to a teacher, the superintendent will have to apply good instruction, personal relationship building, collaborative inquiry, careful planning, best practices, and dispassionate examination of the data. And, like any good teacher, the superintendent needs to *check for understanding* and, where warranted, reteach.

Superintendents need to convey lots of information to a variety of constituencies. Most members of these groups (parents, taxpayers, and elected officials) do not have a background in education, though they all experienced school. In the scenario outlined above, increased funding was clearly the district's most daunting and most pressing need. While there is no doubt that efficiencies could be found in the budget, the schools needed more money. The superintendent discovered that a recent ballot initiative to raise taxes to gain additional revenue for the schools lost by only 300 votes. Further examination showed that a number of parents had not voted in that election. Why was that? An initial hypothesis was that not enough parents were invested in the state of the schools. However, results of focus groups showed that there was not a shared understanding of the hallmarks of a quality school system. Interviews with various town constituents led the superintendent to realize that significant animosity and mistrust existed among and between stakeholder groups. From this new data, the superintendent and his educational team shifted their strategy from one that just focused on getting out the vote to a three-step action plan:

1. Establish forums where community members can air their different perspectives openly and respectfully,
2. Provide multiple opportunities for community members to learn about the educational issues facing the schools, and
3. Publicize criteria used in university research to assess the quality of education within a district.

One strategy the superintendent utilized, as a result of this new thinking, was to *teach* the *curriculum* of the budget by translating it into lessons that would engage the audience and bring about an understanding of the important ideas, rather than simply convey information. For example, due to budgetary constraints, elementary class sizes were exceeding 30 students. The superintendent realized that a simple graph showing the data would not help those community members who experienced class sizes of 40 or 50 students when they were in elementary school to understand the problems posed by large class sizes today.

Trying to explain how special education costs affect the school budget requires teaching minilessons on state and federal mandates, explaining autism and its very dramatic increase in school populations, and explaining why inclusion is worthwhile although it requires more initial expense. To *teach* about class size, the superintendent wrote an article for the local newspaper. With it, he included a class photo from his own elementary school years and asked:

> Can you spot the future superintendent of Canton in this 1959 photo of my 4th-grade class? There are 61 students who were part of my classroom that year. Given the fact that I was able to attain an advanced degree and gain a leadership position, one can easily conclude that such a large class size did little to limit my ability to succeed in school and ultimately secure a reasonable job. While this is a logical conclusion, as an educator, I must also point out that not everyone benefited from this one-size-fits-all model that allowed class sizes to be this large. If you look "behind the scenes" of this photo, you will not be able to detect anyone with a learning disability or with special needs. If students had such needs, they would not have been able to be part of this class. They would have had to attend a special school or be educated at home. If you happen to be one of the girls in this class, your career options would be limited to the basic three: homemaker, teacher, or nurse. You also would have had little opportunity to play organized sports. Also absent from this

> photo are any nonwhite faces. Again, if you happened to be a person of color, you more than likely would have had to attend a different school. I mention these "exceptions" because we often remember fondly the benefits of a previous era of schooling, while not viewing the limitations that also existed during this time. Education was not as adaptive and responsive to the range of needs and backgrounds that we are currently responsible to meet and support.
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> While I am proud of the progress we have made in the field of education over the past half a century, I know that our expanded expectations require a different model than the "one size fits all." We expect and demand from our teachers more personalization, communication, and attention to individual needs. In order to accomplish this, class sizes must be within reasonable limits.

As the superintendent in this case began to convey these *lessons* about the school district, some stakeholders reacted with strong arguments against more funds going to the schools. Some of their statements were caustic. Because of what the superintendent and his team had learned earlier about the corrosive effects of mistrust and anger, the superintendent responded to the critiques in a calm and dispassionate manner, recognizing that the tone of his responses was just as critical as the content of his words. Dispassionate responses to vitriolic critiques began to shift the tenor of the exchanges in the newspaper. Additionally, because of what his team learned from community forums, instead of avoiding those who opposed increased funding, team members reached out to those who had conflicting views. This collaborative approach that engaged the community in a learning cycle led to a political victory that increased funding for the schools.

The story offers one example of how a leader should operate within a learning school system to bridge differences and build a shared understanding of the challenges and goals of the district. While the specifics will differ in each case, educators who utilize a learning cycle that nimbly responds to the root causes of a problem raise the likelihood of achieving success.

Every adult member of a learning school system demonstrates learning, teaching, and collaboration. While there are distinct and specific roles and focus points for each employee—finance officer, director, coach, assistant principal, department head, teacher, paraprofessional, and others—all adult members of the system play the roles of learners, collaborators, and teachers within their distinct job responsibilities, asking questions, collecting data, facilitating teamwork, implementing strategies, assessing impact, and, where necessary, recycling through these phases until goals are achieved.

A LEARNING SCHOOL SYSTEM SHIFTS THE WORK FROM THE INDIVIDUAL TO THE TEAM

Every school district strives to serve all its students well. The capacity of the district to ensure that every individual student learns the skills, knowledge, and dispositions that represent excellence is traditionally thought of as a function of the abilities of individual teachers and principals. It is our contention that the capacity of a school district to provide all students with a gold-standard education is directly proportional to the system's ability to function as a learning unit. The more that teachers, principals, and central office staff act as individuals rather than as members of a collective whole, the less likely that all students will be educated well. As marketing consultant Simon Sinek points out, "Success always takes help. Failure you can do alone." Sinek continues in a recent blog post,

> There is something to be said for being the smartest or the most talented one in the room . . . too bad it doesn't help much in reality. Success, by any definition, is a team sport. I learned this little detail the hard way. There was a time in my life that I thought that if I wanted to make anything out of myself, I'd be responsible for all of it by myself. I thought I could do everything primarily because I thought I should do everything. I needed to know how to be the boss, the accountant, the creative director, the marketing manager, the HR director, set the strategy and do the work with my clients. Even if I hired or worked with others, I wanted to be the final say on everything. This was a brilliant strategy until three things happened.
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> 1. I learned I wasn't good at everything
> 2. I didn't have the energy to do everything
> 3. I failed
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> The human animal is a social animal and our survival and success depend on our ability to find communities of people who share our values and beliefs. When these communities form, trust emerges. It is then that the human animal will adapt from a survival instinct by self-preservation to one of working for the good of the community. Both are designed to help the individual survive, but it is the community that has the greater chance of not only survival but success. (2010)

FRACTALS—A MODEL FOR UNDERSTANDING THE SELF-SIMILARITIES OF A LEARNING SCHOOL SYSTEM

What is a fractal? A fractal is "a rough or fragmented geometric shape that can be split into parts, each of which is (at least approximately) a reduced-size copy of the whole," (Mandelbrot, 1982) or in other words, a geometric shape which exhibits *self-similarity*. The term *fractal* was coined by Benoît Mandelbrot in 1975 and was derived from the Latin *fractus,* meaning "broken" or "fractured" (Fractals, n.d.).

A fractal repeats itself at smaller and larger scales. If one takes a head of broccoli and removes one floret, the small part will resemble the whole. If one removes a portion of the floret, the part again resembles the original section. In a learning school system, the learning dynamic that occurs between a student and a teacher is replicated among teachers and principals, and further mirrored in the work among and between central office staff and building principals. In such a school system, no matter where one looks, the pattern is the same.

In learning school systems, this symmetry is not a function of gene activation (as it is in broccoli) but rather is the result of intentional and informed leadership. The symmetry provides improved coordination and a reduction in lost energy due to weak organization of efforts.

Leveraging the potential of the whole system acting in a coordinated set of efforts gives access to energies that often go untapped in school districts that rely more heavily on the capacities and abilities of individual educators. In a *learning school system,* the whole is greater than the sum of the parts. The late inventor Buckminster Fuller referred to this dynamic as *synergy,* which he defined as "a behavior of a whole system unpredicted by the behavior of its parts taken separately." Noted educator Michael Fullan describes this synergy as the organization's *collective capacity*: "The collective ability, dispositions, skills, knowledge, motivation, and resources—to act together to bring about positive change. That is what is called for to sustain continuous improvement" (Fullan, 2005).

The Learning Cycle

In a learning school system, learning cycles are replicated in each and every aspect of the institution. A learning cycle consists of the following phases:

1. Study a problem.
2. Investigate a range of potential strategies. Examine locally and externally researched interventions.

3. Experiment with a particular strategy or combination of strategies.
4. Examine and evaluate the data that result from the experimentation.
5. If an acceptable solution is not achieved, the learner returns to Step 3 and adjusts the original methodology or creates a new strategy as a result of the analysis of the data in Step 4.

In a learning school system, this pattern may be observed at the student level in a student or team of students in a science class trying to determine the nature of the components in a beaker filled with sludge.

At the teacher level, this pattern may be observed in a professional learning community as a group of teachers try to improve the effectiveness of their strategies to teach students division of fractions.

At the school level, this pattern may be observed as principals work together to examine the effectiveness of their strategies to implement a new approach to literacy.

At the central office level, this pattern may be observed in the way district leaders examine their attempts to close the achievement gaps.

At the school board level, this pattern may be observed in the manner in which the school board and superintendent deal with an unexpected environmental crisis affecting a local elementary school.

Professional development in a learning school system is comprised of course work and coaching designed to strengthen teacher practice and to address student learning needs. After each course, data are collected to examine whether the new pedagogical approaches or curricular developments are implemented properly and are successful at achieving desired results. If they are not successful, the professional development plan is revised to address where the interventions broke down.

At any meeting in a learning school system, members address a student learning issue by first examining data from multiple sources. One would hear a robust conversation where participants actively challenge each other's thinking; out of that conflict would emerge a commitment to a plan of intervention that, at a later meeting, would have to pass the test of having achieved measurable results. This would be characteristic of meetings that occurred within schools as well as between schools.

The cycle above not only achieves solutions to problems, but it also continually adds "local" knowledge to the collective skill base of practitioners. The individual, the group, the team, and ultimately the system continually improve by adding new knowledge through each of the learning cycles. This collective learning is not limited to academic dimensions. In a learning system, the approach to every challenge and every problem is to study and analyze the context, develop solutions, collect data, and extract

from it insights that inform the next round of strategic work until an effective solution is achieved. Ineffective problem resolutions lead to further experimentation. Whether the issue is removing an environmental hazard from a local elementary school, improving participation rates in AP courses, strategizing about how to strengthen differentiated instruction, examining a more cost-effective approach to deliver special education services, or mounting a community campaign to gain support for an increase in taxes that fund local schools, the educators within a learning school system approach their work collaboratively and analytically, constantly distilling the learning that is acquired even from failed attempts and less than desired results. In such a school system, the constant modeling of how to approach problem solving is an overarching benefit to students and staff alike. In the words of noted educator Michael Fullan "learning is the work" (2008b, p. 75).

While learning occurs in most schools, it happens in a disorganized and isolated manner and without the benefit of systemic support. Results are not necessarily documented or shared, and the focus is often at the individual level. Teachers often work independently of each other; in addition, principals are isolated or in competitive situations. The work of the central office is often seen as disconnected from, or at odds with, the work "on the ground." We will argue in this text that learning can be enhanced when educators make explicit efforts to implement the learning cycle in all processes, meetings, and system behaviors. These efforts will increase the probability that every student will achieve a high-quality education, because the efforts of the whole system will be harnessed to achieve goals. Loss of energy and focus through personnel changes will be minimized, and the repeated modeling will help ensure that an important goal will be achieved: continual learning. In a learning school system, student achievement is viewed not just as the responsibility of individual teachers acting alone, but also as the responsibility of the school and the school system. There is a relentless striving for more effective solutions, based on a constant examination and reexamination of the systems that contribute to results. The benefits of becoming a learning system are

- more long-term sustainability, because the learning capacity of the system blunts the impact of staff turnover;
- increased opportunities for teachers to expand their skills and proficiencies as a result of collaboration between schools and districtwide professional development aligned with school and district goals;
- improved capacity-building opportunities for administrators through collegial support;
- effective use of limited district funds; and

- more programs for students than individual schools can offer (for example, special education programs and magnet programs for all students).

RECYCLING MISTAKES INTO LEARNING

While many embrace the concept of continued learning, advocates do so without adequately recognizing how messy, uncomfortable, and discouraging the learning cycle can be at times. It will often involve making mistakes, failure, and engaging in conflict. And while failure cannot be acceptable, it is often a temporary way station on the road to goal attainment. Sir Kenneth Robinson points out in his TED video "Are Schools Killing Creativity?" that we are now creating school systems that are overly influenced by test results, and consequently "mistakes are the worst thing you can make." Robinson clarifies that making mistakes is not the same as being creative, but if one "is not prepared to be wrong, one will never come up with anything original." (2006).

It is for these reasons that one of the most vital components of a learning school system is the ability of its leaders to develop learning climates that foster continual experimentation with new strategies and ideas to improve student learning. Experimentation, however, also brings with it mistakes, setbacks, false starts, and less-than-satisfactory results. If mistakes like these are consistently viewed as signs of weakness or something to be avoided at all costs, the inquiry and honest analysis required of *learners* within this framework will be impeded. The test for the health of a learning system climate is what occurs when results are not achieved after implementing a set of strategies. If the system responds with punitive measures, then the relentless reexamination of results and a recrafting of interventions until the desired goals are achieved will often be replaced by camouflage, blame, avoidance, and less-than-forthright assessments.

In essence, this cycle of applying strategies, examining results, and rethinking one's original hypothesis is what is expected of teachers working with students. It is also the most important habit of mind to instill in our students. Students in a learning school system would enter the learning process with the belief that anything is possible to master if one is willing to analyze, experiment, honestly review the result of one's efforts and strategies, and start the cycle all over again by shifting strategies and increasing efforts until one has mastered the skill or understood the concept. This is what social psychologist Carol Dweck refers to as a *growth mindset* (Dweck, 2008). Encouraging this kind of approach to learning, and in particular, this view of mistakes, is dependent upon a very critical ingredient: feedback loops.

Feedback Loops

A feedback loop may be illustrated by an analogy to a computer game: feedback is rapid, specific, and nonjudgmental.

There is no penalty for those who need to try it a second, third, or fourth time in order to get it right. The feedback is immediate and ongoing. The player also knows *along the way* how he or she is doing. The feedback is user friendly. It's clear, specific, and useful to the performer. The quality of the feedback promotes self-directed learning (as opposed to learning imposed from someone who tells the participant what to do) because the *player* uses the feedback to self-adjust. The criteria for success are clearly spelled out. The ability of a school system to create these kinds of feedback loops for students, teachers, and administrators is a critical aspect of a learning school system.

Providing timely and ongoing feedback requires attending to data flow structures, scheduling meetings that bring data and people together, and creating a system that is firm on goal attainment but lenient on students when they don't learn on their first attempt. The belief exhibited in such a school system is: *It will take time and multiple attempts before excellence is achieved.*

EFFECTIVE COLLABORATION

Another vital aspect of the culture within a vibrant learning school system is effective collaboration that shows up in every domain and aspect of the system. The insights on teamwork developed by nationally renowned experts in professional learning communities, Rick and Becky DuFour, have helped us to understand that when educators work collaboratively rather than in isolation, students learn more (Dufour & Eaker, 1998).

Dufour and Eaker define effective collaboration in professional learning communities as follows:

- Shared vision and values that lead to a collective commitment of school staff, which is expressed in day-to-day practices;
- Solutions actively sought, openness to new ideas;
- Working teams cooperate to achieve common goals;
- Encouragement of experimentation as an opportunity to learn;
- Questioning of the status quo, leading to an ongoing quest for improvement and professional learning;
- Continuous improvement based on an evaluation of outcomes rather than on the intentions expressed; and
- Reflection in order to study the operation and impacts of actions taken.

The functioning of teams in a school system offers a window to examine how effectively that system embraces collaboration. Are teams valued, nurtured, developed, and supported? In a learning school system, teams are the unit of study, and the concept of *team* applies not only to collections of individuals but also to groups and schools within the system. If there is more than one school at a particular level (elementary, middle, high), the expectation is that collaboration will occur between and among schools as frequently as it occurs within schools.

REVISIONING CONFLICT—EMBRACING IT AS THE PRECURSOR TO COMMITMENT

Effective collaboration is built upon the capacity of educators to engage in and resolve conflict. Conflict can be particularly challenging when competing perspectives and values require a range of communication skills to untangle. Educators often lack these vital communication skills. Additionally, educators can often be averse to conflict. D'Auria and King write about this gap in educator preparation:

> One of the great mysteries of our profession is why so little is done to prepare aspiring teachers, and especially school administrators, for the conflict that occurs in schools. Conflict with students, parents, colleagues, and supervisors is what wakes us up in the middle of the night with a pit in our stomach. Difficult conversations that have gone bad, are being avoided, or which will take place the next day grip our minds, dominate our self-talk, drain our emotional energy, and block us from being more present-centered. While there are technical bodies of knowledge that must be learned, far too little emphasis is placed on the emotional capacities that contribute to effective leadership. (2009, p. 132)

TRUST—A CRITICAL FACTOR IN CREATING A CLIMATE OF CONTINUAL IMPROVEMENT

Learning how to manage conflict, recycle mistakes into learning, and dispassionately examine results until desired goals are achieved requires an enormous amount of trust. By trust, we are not referring simply to a positive feeling that one can rely on colleagues or leaders; rather, we mean the ability of members of the *system* to admit their vulnerability, to ask for assistance, and to be able to learn and acquire new proficiencies over time.

Trust is one crucial quality of the pattern that is repeated at all levels of the learning school system "fractal." Within a single classroom, a skilled teacher engenders trust—or the ability of her students to admit their vulnerability as learners—by how she communicates beliefs, handles mistakes, and builds relationships with students. A principal develops a climate of trust—or the ability of the staff to admit their vulnerability as learners—in a similar manner. A superintendent in a learning school system would also build a climate of trust as defined by the ability of principals to ask for assistance.

SHIFTING ARCHITECTURE OF SCHOOLS

In a learning system, teachers see their roles more as architects of learning experiences for their students than as conveyers of information. Principals in such a dynamic system see themselves less as building managers, chief disciplinarians, and overseers and more like leaders who shape and influence learning cultures for teachers. Central office leaders in a learning school system continue to think about budgets, politics, and school board relationships—*and* they also see their most significant work as supporting and inspiring the learning and efforts of principals. As with more traditional architecture, blueprints that illustrate details are necessary as is an inspiring vision within a framework that contains costs. Currently, schools are built to maintain the status quo rather than to adjust to the ever-changing needs of students in ways that will achieve desired results. In the ensuing chapters, the authors share their insights on how to transform a school district from a rigid architecture comprised of individuals to one that is characterized by flexibility, responsiveness, collaboration, and synergy.

OUTLINE OF THE BOOK

In the following chapters, the authors will explore the dimensions of a K–12 learning school system designed to create a culture of innovation and diffusion of best practices from small groups of educators to educators throughout a school system. Chapters 1 and 2 describe how the current paradigm of education limits school systems in their ability to teach all students at high levels and how school systems can overcome these obstacles. Chapter 1 describes the current dominant model of education, the origins of this model, and its limitations. We examine 200 years of U.S. education history and discuss six historical factors that limit a school system's capacity to educate all students. This chapter shows how teacher

isolation, overstandardization, and a narrow view of professional development limits a school's or school system's ability to solve education problems and to develop more effective instructional practices.

Chapter 2 presents a new paradigm of whole school system change that can overcome the limitations of the past, close achievement gaps, raise academic achievement for all students, and unleash educator potential to create lasting cultural change in their schools and school systems from a compliance and standardization model to a collaborative learning organization. We introduce four drivers of change that, when working synergistically, will unleash teacher creativity to develop new educational solutions for all students.

Chapters 3 through 6 describe the four drivers of a K–12 learning school system in more depth: the importance of trust, collaboration in all directions, capacity building for all educators, and leadership at all levels. Without these components, teachers retreat to their classrooms and work less effectively in teams. In Chapter 3, we discuss the importance of building and sustaining a climate of trust and how to repair trust when it is broken. In Chapter 4, we examine how a district must move from a collection of individuals to a collaborative enterprise. In Chapter 5, we discuss the traditional model of teacher professional development and why schools need to adopt new ways to expand individual, school, and system-wide educator capacity. In Chapter 6, we discuss the importance of developing leaders at all levels of a school system, in order to expand school and district capacity to educate all students at higher levels.

Chapters 7 and 8 discuss what school leaders can do to overcome a variety of obstacles to change coming from colleagues, school administrators, elected officials, parents, and unions. In Chapter 7, we carefully examine the various constituencies that may block changes within a school or school system and why these constituencies may resist change. In Chapter 8, we offer a method for overcoming these obstacles to change and present a model, adapted from more than 60 years of research, for diffusing innovation throughout a school or school system. The model shows how school leaders can support the development of new ideas, help colleagues work through resistance, and support these colleagues with professional development as they learn and adopt new practices of teaching and learning.