care that go with it: violence, child abuse, teenage pregnancy, substance abuse, and incessant social upheaval.

Struggling to keep up with these kinds of demands, school leaders continually place their institutions on the frontier of change. (The perennial whirlwind of educational fads and fashions is a symptom of this struggle.) Yet schools also face intense pressure to slow down change, to be conservative, to reinforce traditional practices, and not to leave anyone behind.

No one really knows what the working world or, indeed, what civilization and culture worldwide will be like in eighteen years, when today's kindergartners graduate from college. In that context, the emerging electronic information environment puts schools in a daunting double bind. On one level, schools are a natural home for computers and communications technologies; they can't ignore the opportunities for students to access the world online. But these tools represent a competitive, unmanageable force. The critical learning conversations for many students now don't take place in class, or even at recess; they now take place online, at eight or ten at night, with people who live hundreds or thousands of miles away. Some experts blithely (and short-sightedly) predict that public schooling itself will die soon, "done in" by its inability to keep up.

The safest prediction is change; schools can no longer prepare people to fit in the world of twenty years ago, because that world will no longer exist. As Fifth Discipline Fieledook coauthor Charlotte Roberts asked a group of educators recently, "Do we really want to re-create the schools we remember from our own childhoods? Do we want to stop the flow of change and create stagnant pools of schooling because that's what educators were molded to fit into?"

In this context, the idea of building a school that learns—or, more precisely, a learning classroom, learning school, and learning community—represents an approach that galvanizes hope.

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In the Chinese language, two characters represent the word "learning." The first character means "to study." It is composed of two parts: a symbol that means "to accumulate knowledge" is placed above a symbol for a child in a doorway.

The second character means "to practice constantly," and it shows a bird developing the ability to leave the nest. The upper symbol represents flying; the lower symbol, youth. For the Asian mind, learning is ongoing. "Study" and "practice constantly," together, suggest that learning should mean: "mastery of the way of self-improvement."—Peter Senge


Three nested systems of activity

Good connections start with recognition. One of the most consistent themes underlying this book project is the need for a clear expression of "I See You!": the ability to recognize each other's identity and value, particularly if one or both of us have been invisible to the other before now. The phrase comes from the opening of The Fifth Discipline Fieledook:

Among the tribes of northern Natal in South Africa, the most common greeting, equivalent to "hello" in English, is the expression: Sewe bona. It literally means, "I see you." If you are a member of the tribe, you might reply by saying Sikheka, "I am here." The order of the exchange is important: until you see me, I do not exist. It's as if, when you see me, you bring me into existence.

This meaning implicit in the language, is part of the spirit of ubuntu, a frame of mind prevalent among native people in Africa below the Sahara. The word "ubuntu" stems from the folk saying Ununtu ngumuntu ngabantu, which, from Zulu, literally translates as: "A person is a person because of other people." If you grow up with this perspective, your identity is based on the fact that you are seen—that the people around you respect and acknowledge you as a person.

Who, then, are the participants in any effort to create a school that learns? Whether the school is public or private, urban or rural, large or small, there are three nested systems at play, all deeply embedded in daily life, all interdependent with one another, and all with interwoven patterns of influence. These systems—the classroom, the school, and the community—intersect in ways that are sometimes hard to see but that shape the priorities and needs of people at all levels. In any effort to foster schools that learn, changes will make a difference only if they take place at all three levels.
Notice the way they walk—stooped over, bearing backpacks that weigh and cost and m’t usst ats. nd ve to on h- ur’s y lo

By and large the students remain silent as the stress level grows—until problems erupt more visibly. When that happens, schools are blamed for “not keeping order.” They respond, most often, by creating even more pressure. It seems that few have any idea what they can do to address the deeper causes of malaise. This situation leaves students with two basic alternatives: cope or disengage. Many disengage. The system then tracks them into classes for underachievers where they no longer will be challenged. Most students try to cope, like the middle schooler I saw recently pulling a “weeley”—a suitcase on wheels like those carried by airline travelers—full of her books. I wondered to myself just how many more pounds that it could hold.

THE INDUSTRIAL-AGE HERITAGE OF SCHOOLS

How did this situation arise? A little history is necessary to see a fuller picture.

In many ways, the industrial age had its roots in the fascination of Kepler, Descartes, Newton, and other seventeenth-century scientists with the clock as a model for the cosmos. “My aim,” wrote Johannes Kepler in 1605, “is to show that the celestial machine is to be likened not to a divine organism but rather to a clockwork.” According to historian Daniel Boorstin, “Descartes made the clock his prototypical machine.” Isaac Newton, says Arthur Koestler, assigned to God a twofold function as Creator of the universal clockwork and as its Supervisor for maintenance and repair.

For these scientists, it became natural to conceive of the world as made up of discrete components, which fit together like the parts in a machine. This offered the beguiling implication that ultimately the universe could be understood completely. The behavior of atoms, conceived as tiny bouncing billiard balls, could be predicted, as could the behavior of more complex objects assembled from them. A worldview emerged that became the foundation for 350 years of scientific progress. Once you analyze the parts, the world can be predicted and controlled, as a machine is controlled. As Russell Ackoff puts it, “the universe was believed to be a machine that was created by God to do his work. Man, as part of that machine, was expected to serve God’s purposes... It obviously followed that man ought to be creating machines to do his work.” So powerful was the machine metaphor that writers like Ackoff dubbed the industrial age the “Machine Age.”

Machine-age thinking became the foundation for organizations and
management when Frederick the Great, the eighteenth-century Prussian ruler, achieved military successes by instituting standardization, uniformity, and drill training. Before then, management writer Gareth Morgan notes, armies had been unruly mobs of "criminals, paupers, foreign mercenaries and unwilling conscripts." Now they became great, invisible machines, with interchangeable parts (unruly drilled men who could replace one another easily, standardized equipment, and strict regulations. Not surprisingly, Frederick devised many of his techniques by studying machines. He was "fascinated," writes Morgan, "by the workings of automated toys such as mechanical men, and in his quest to shape the army into a reliable and efficient instrument he introduced many reforms that actually served to reduce his soldiers to automata."

Inspired by progress in Newtonian science, industrialists of the nineteenth century patterned their organizations directly after Frederick the Great's army, including such mechanistic structures as the "chain of command," the "line" and "staff" organizations, and the "training and development" approach to learning. The organization as machine eventually found its prototypical embodiment in the assembly line. The assembly line produced an unparalleled number of uniform manufactured objects more rapidly than ever before. As scientific progress manifested itself in new and increasingly powerful technologies, they were incorporated into the assembly line, enabling previously unimaginable increases in labor productivity. From 1770 to 1812, labor productivity increased 120 times over in the British textile industry. By 1890, according to business historian Alfred Chandler, Jr., "four-fifths of the people working on the production of goods were working in mechanized factories." The assembly line also transformed the conditions of work: interchangeable, trained workers doing precisely designed repetitive tasks, orchestrated by a rhythm set by external bosses.

It is little surprise that educators of the mid-nineteenth century explicitly borrowed their new designs from the factory-builders they admired. The result was an industrial-age school system fashioned in the image of the assembly line, the icon of the booming industrial age. In fact, school may be the starkest example in modern society of an entire institution modeled after the assembly line. Like any assembly line, the system was organized in discrete stages. Called grades, they segregated children by age. Everyone was supposed to move from stage to stage together. Each stage had local supervisors—the teachers responsible for it. Classes of twenty to forty students met for specified periods in a scheduled day to drill for tests. The whole school was designed to run at a uniform speed, complete with bells and rigid daily time schedules.

Each teacher knew what had to be covered in order to keep the line moving, even though he or she had little influence on its preset speed, which was determined by school boards and standardized curricula. Although few of us today appreciate how deeply assembly-line concepts are embedded in the modern school, nineteenth-century writers spoke admiringly of schools as analogues to machines and factories. According to historian David Tyack: "As eighteenth-century theologians could think of God as a clockmaker without derogation, so [too] the social engineers searching for new organizational forms used the words 'machine' or 'factory' without investing them with the negative associations they evoke today. For example, machine concepts like standardization played a role in creating unified school systems. In 1844 Samuel Gridley Howe, a newly elected Massachusetts Board of Education member, implemented a standardized test and used the dismal results to galvanize public outrage about the decentralized Boston schools, leading to their consolidation as a single, citywide system, an approach that ultimately influenced schools throughout North America and the rest of the world. The result of this machine-age thinking was a model of school separate from daily life, governed in an authoritarian manner, oriented above all else to producing a standardized product, the labor input needed for the rapidly growing industrial-age workplace—and as dependent on maintaining control as the armies of Frederick the Great."

The industrial model of schools didn't just change how children learned; it also changed what was taught. In the American colonial period, for example, in local one-room schoolhouses, children might be taught from Ben Franklin's Poor Richard's Almanac. Other countries had their own local, indigenous texts, both written and oral. They learned about weather and climate, but not for the sake of altering or controlling the seasons. They learned about the world to understand and fit it into, not to command or control it.

While the assembly-line school system dramatically increased educational output, it also created many of the most intractable problems with which students, teachers, and parents struggle to this day. It operationally defined smart kids and dumb kids. Those who did not learn at the speed of the assembly line either fell off or were forced to struggle continually to keep pace; they were labeled "slow" or, in today's more fashionable jargon, "learning disabled." It established uniformity of product and process as norms, thereby naively assuming that all children learn in the same way. It made educators into controllers and inspectors, thereby transforming the traditional mentor-mentee relationship and establishing teacher-centered rather than learner-centered learning.
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Motivation became the teacher’s responsibility rather than the learner’s. Discipline became adherence to rules set by the teacher rather than self-discipline. Assessment centered on gaining the teacher’s approval rather than objectively gauging one’s own capabilities. Finally, the assembly-line model tacitly identified students as the product rather than the creators of learning, passive objects being shaped by an educational process beyond their influence.

Seeing school as an assembly line for producing graduates illuminates the reasons for the ever-weightier backpacks. The assembly-line education system is under stress. Its products are no longer judged adequate by society. Its productivity is questioned. And it is responding in the only way the system knows how to respond: by doing what it has always done but harder. Workloads increase. Standardized testing is intensified. Among neurophysiologists there is a common expression, “The brain downshift under stress.” When we are fearful, we revert to our most habitual behaviors. Larger human systems are no different. Whether they espouse it or not, educators are responding to the extraordinary anxiety and stress they are experiencing by turning up the speed of the assembly line. While this might produce a bit more output, all of us—students, teachers, and parents—should be asking whether it produces more learning.

A SYSTEM TRAPPED

Like other industrial-age institutions today, educational institutions are caught in extraordinary cross-currents of change. Businesses also struggle with increasing pressures for performance to please external stakeholders. They too create extraordinary stresses on their members by attempting to get more output while reducing headcount.

Yet, as someone who spends considerable time with educators and businesspeople, it is my judgment that educators feel more trapped and less able to innovate than do their business counterparts. Several years ago I asked a group of educators a question I have often asked of business groups: “Do you believe that significant change occurs only as a result of a crisis?” In business groups, typically three-quarters will respond affirmatively. But, then, others will tell stories of significant changes that arose without a crisis, from passion and imagination, from leaders of many types willing to take risks in favor of something in which they believed. The group of educators responded differently. Very few raised their hands at my first question. Puzzled, I asked, “Does that...
response, I would argue that past efforts at innovation, while unsuccessful, also grew out of appreciation of the limitations of machine-age thinking. Moreover, basic institutional innovation takes decades, not years. Many writers have developed the theory that basic innovation, especially the innovations that create new industries, involves ensembles of technologies. For example, the birth of the commercial airline industry involved many innovations in aircraft design in the first three decades of the twentieth century, but it also required the development of jet engines and radio in the 1940s. Like technological innovation, institutional innovation usually arises only as multiple new “component innovations” come together to create ensembles of new ideas and approaches that can support widespread application. I believe the conditions for just such institutional innovation exist today.

First, there are unprecedented signs of breakdown in the assembly school concept and process. Extraordinary stress—not just on students, but on teachers, administrators, and parents—is one symptom of breakdown. Another is the increasing separation of “have” and “have-nots.” Those who can afford it increasingly put their children in private school, where they purchase smaller class sizes, the opportunity to be surrounded by other elite students, and access to teachers who are more satisfied with their working conditions. Others opt for home schooling, by some accounts the fastest growing segment of precollege education, estimated to involve 500,000 to 1.25 million children. But neither private nor home schooling are options for the majority of families, and those in public school are being increasingly shut out of society’s best opportunities. As a result of growing inequity, social unrest and disturbance are growing. Moreover, judging from conversations I have had in recent years, concern over education seems to be growing throughout the industrialized world at levels that would have seemed almost unimaginable a few years before.

Second, many of the historical conditions upon which the industrial-age school relied no longer exist. Part of this is due to demographic changes. The capture female labor market that schools depended on to draw the majority of its cohort has disappeared, as women now pursue a much broader range of professions. Even more problematic, traditional schools depended on traditional family and community structures that no longer exist. In the United States, the traditional family structure of one parent working and one parent at home to raise kids ceased to be the social norm during the 1980s and 1990s. It has been replaced by families with two working parents or single parents as the norm. Today, among families with children under eighteen, only 26 percent have one or more parents home during the day. (Even this figure may be inflated due to the increasing number of parents working from their homes, which gives more opportunity for contact with children but also creates stress due to conflicting professional responsibilities.) The other three-quarters of school kids have no one to come home to. A breakdown of the traditional parent-child-school relationship has resulted. Schools now have to take on more of a child-care role, and conversations between parents and teachers are often more focused on catering parents’ stresses than on helping the children academically.

Perhaps as historic is the elimination of the school’s monopoly on the provision of information, due to the growth in communication and media technology. One hundred years ago, children knew little of what was going on in the larger world. Today, the typical teenager has at least as much access to knowledge about the world as parents and teachers have. Moreover, media technologies such as computers, video games, and the Internet provide a mix of fun and learning in ways that schoolrooms cannot match: they are controlled by the learner, available when the learner is ready, and embedded in networks of mutual interests among peers. Changes in family structure have rendered these media technologies especially influential, since they often fill the gap as substitute parents.

Last, even if much of the descriptive symptoms of profound change were ignored, the simple fact is that the working world is no longer looking for “industrial workers.” Employers of tomorrow likely will place a much higher value on listening and communication skills, on collaborative learning capabilities, and on critical thinking and systems thinking skills—because most work is increasingly interdependent, dynamic, and global. The former dean of MIT’s engineering school, Gordon Brown, used to say “To be a teacher you must be a prophet—because you are trying to prepare people for a world thirty to fifty years into the future.” By continuing to prop up the industrial-age concept of schools through teacher-centered instruction, learning as memorization, and extreme control we are preparing students for a world that is ceasing to exist.

Still, it is easy to be daunted by the challenge of transforming industrial-age schools, especially considering that their underlying assumptions still match the thinking of most people and most of society’s institutions. But, I think such reactions miss an important point. The challenge is not to come up with a simple set of fixes. Indeed, the machine-age concept of “fixes” is part of the problem. Many historians of school reform, from Seymour Sarason to Diane Ravitch to David Tyack summarizing statistics from the Department of Education [500,000-750,000 children taught at home] and the HomeSchool Legal Defense Association (14,000). Since an increasing number of children are "homeschooled", (for a limited number of years, or for only certain subjects), this number may be larger. The source for the changing family structure is, Statistical Abstract of the United States, Table No.661. 1994. "Living With Own Children—Employment Status of Women:1995 and 1996. Source: U.S. Bureau of Labor Statistics, News, USDL 97-105, June 16, 1997, and unpublished data.

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restructuring seeks to accomplish. A high dropout rate among teachers with one to five years of experience may be an indication of this strain. They typically are the teachers who are given the most difficult class assignments. Teachers, particularly those engaged in restructuring, all too frequently speak of burnout as they attempt to accomplish more in a system that refuses to stretch and yet forces ever "new" techniques, methods, and solutions onto their already overcrowded responsibilities. This strain is particularly evident when teachers are not allowed to integrate such efforts at improved practice into a coherent sense of how these fit into their own understandings and assumptions about good learning and teaching.

In China and Japan, the average elementary school teacher spends approximately 90 percent of the day in planning and curriculum consultation, and rarely teaches more than three hours a day (Stevenson 1992, pp. 74-75). In the United States, that planning time translates into anything from a half hour to one or two hours per week in elementary schools. In high school, what is called preparation time amounts to one hour a day. Exceptions are relatively rare. How can teachers possibly integrate into practice the exploding knowledge base in the neurosciences, cognitive sciences, technology, individual disciplines, and what we now know about how to help children become healthier, more effective human beings, when all they have time for is to implement a predetermined lesson plan hour after hour with a 5- to 10-minute break in between?

Class size can also add to teacher burnout. In many states, elementary schools have at least 35 students per class.

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**Our Map in Outline**

When so many well-intentioned and deeply invested people find themselves at loggerheads with each other in so many ways, the problem most likely runs deeper than we have collectively realized. In our examination of many issues—funding, phrasing or whole language, site-based management, vouchers or charter schools, business partnerships and the privatization of school systems, demographics, technology, and parenting changes—we have asked a critical question:

Is there something functioning at an even deeper level that makes sense of the conflict and crisis, and that gives us a handle on how to approach the enormous problems we face?

In our research, we ventured into these waters with half a solution. We were, and continue to be, absolutely certain that a fundamental issue hinges on the understanding that stakeholders have of how human beings learn. We feel that many hold basic beliefs about learning that are far too limited; and the problems in and with education cannot be solved until these beliefs are changed. Thus, our approach is to work with the deeply held beliefs that educators have about learning, with the goal of changing those beliefs and so leading to changes in teaching.

In the course of our own work with schools, we began to explore even deeper issues. In the journey that we describe in this book, featuring two schools in particular, we were reacquainted with the fact that schools do not operate in a vacuum. Powerful forces keep traditional classroom teaching in place. We found that we could not describe our change process in isolation without looking at the broader "systems" question as well.

Ultimately, we believe that there is a coherent way to look at the problems; and there are ways to restructure education, renew educators, and significantly raise the standards of students. Accomplishing
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such renewal, however, requires a profound rethinking of much that
we have taken for granted. For example, discoveries in biology and
physics are making a new view of life and the universe explicit, while
prolific uses of technology have enlarged and complicated our lives.
At the same time, input from many fields is providing a new under-
standing of ourselves and the way we learn.

It seems to us that in evolutionary terms, education has worked
well over the last 100 years. Although many people have fallen through
the cracks and numerous inequities have occurred, the model of
education has been a good "fit" for the industrial age. Large numbers
of people have been equipped to function in industry. And education
and industry have been perceived through the same large lens.

What is now happening is that the world itself is changing, and the
lenses through which we have peered are being replaced. As that
happens in other larger spheres of life, a point is reached where
education must follow suit.

We are leaving behind one way of looking at the world—a way
that is built on a belief in stability and controlled change as ideal. In its
place, we are moving toward an emerging understanding of the dyna-
mism of life at every level. It is the understanding of change as natural
to every facet of our existence and an embracing of continuing possibility
that we have been keeping at bay. Four ideas can guide us
in trying to understand change:

1. Disequilibrium is everywhere, and we need to understand
that. All systems, including education, are caught up in the turbulence
of extraordinary change. To understand and work effectively with any
social system at this time, we have to come to terms with new ways of
thinking, embodied in, but not limited to, what are being called the
"new sciences." Among the new ideas that are helping us to rethink
our basic assumptions are the notions of complex adaptive systems,
self-organization, field effects, self-reference, and the edge of chaos.
These ideas are examined in depth in later chapters. That thinking will
help us grasp the ways in which the system is functioning and see how
to guide and influence the directions we wish it to take.

2. The brain is equipped to deal with a turbulent world. But
to understand this, we first need to come to terms with how the
brain learns and to see how this knowledge translates into our
everyday lives. Research from the neurosciences and many other fields
is profoundly changing what we know about how people learn.
Traditional approaches to learning and teaching sufficed in a stable and
less turbulent world. Today, we have no choice but to ground our work
with education in a thorough understanding of how the brain actually
learns. The brain, and therefore we, are not limited to the learning of
a digital computer. We are meant to learn from naturally complex and
"messy" experiences. At the same time, our understanding of stress and
the nature of anxiety and trauma is teaching us that we learn best when
our emotional lives are orderly and coherent (when they make sense).

3. The change process is intrinsically transformational. Most
of the work on school change, even when parents and other stakehold-
ers have been included, has been directed at changing strategies,
structures, and external behaviors. In a turbulent world, that approach
cannot work. We are now finding out that the key is to assist systems
to self-organize and transform themselves. This process can be influ-
enced, but it simply cannot be controlled from the outside.

4. To function best in this new environment, we need to
embrace a fundamentally different world view or perceptual
orientation. In the course of our work with schools and business, we
identified specific approaches to teaching. One favored control and a
high degree of stability. Another favored fluid situations and students
engaged in self-directed learning. Our greatest surprise was to find that
these instructional approaches are grounded in intrinsically different
ways of viewing reality. Because people have such differing perceptual
orientations, some educators are more at home in the world of change
and turbulence than others. It is therefore not simply a matter of
changing strategies—it is a matter of seeing with different lenses.

We ultimately concluded that the most important step that we could
take would be to come to understand these perceptual differences, and
that the key to successfully transforming education lies in transforming
ourselves.
such renewal, however, requires a profound rethinking of much that we have taken for granted. For example, discoveries in biology and physics are making a new view of life and the universe explicit, while prolific uses of technology have enlarged and complicated our lives. At the same time, input from many fields is providing a new understanding of ourselves and the way we learn.

It seems to us that in evolutionary terms, education has worked well over the last 100 years. Although many people have fallen through the cracks and numerous inequities have occurred, the model of education has been a good “fit” for the industrial age. Large numbers of people have been equipped to function in industry. And education and industry have been perceived through the same larger lens.

What is now happening is that the world itself is changing, and the lenses through which we have peered are being replaced. As that happens in other larger spheres of life, a point is reached where education must follow suit.

We are leaving behind one way of looking at the world—a way that is built on a belief in stability and controlled change as ideal. In its place, we’re moving toward an emerging understanding of the dynamism of life at every level. It is the understanding of change as natural to every facet of our existence and an embracing of continuing possibility that we have been keeping at bay. Four ideas can guide us in trying to understand change:

1. **Disequilibrium is everywhere, and we need to understand that.** All systems, including education, are caught up in the turbulence of extraordinary change. To understand and work effectively with any social system at this time, we have to come to terms with new ways of thinking, embodied in, but not limited to, what are being called the “new sciences.” Among the new ideas that are helping us to rethink our basic assumptions are the notions of complex adaptive systems, self-organization, field effects, self-reference, and the edge of chaos. These ideas are examined in depth in later chapters. That thinking will help us grasp the ways in which the system is functioning and see how to guide and influence the directions we wish to take.

2. **The brain is equipped to deal with a turbulent world. But to understand this, we first need to come to terms with how the brain learns and to see how this knowledge translates into our everyday lives.** Research from the neurosciences and many other fields is profoundly changing what we know about how people learn. Traditional approaches to learning and teaching sufficed in a stable and less turbulent world. Today, we have no choice but to ground our work with education in a thorough understanding of how the brain actually learns. The brain, and therefore we, are not limited to the learning of a digital computer. We are meant to learn from naturally complex and “messy” experiences. At the same time, our understanding of stress and the nature of anxiety and trauma is teaching us that we learn best when our emotional lives are orderly and coherent (when they make sense).

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We ultimately concluded that the most important step that we could take would be to come to understand these perceptual differences, and that the key to successfully transforming education lies in transforming ourselves.
Brain-Based Learning

In Making Connections, we describe 12 "brain principles" of learning. Figure 11 (see p. 19) shows our revised principles; Chapter 5 provides a more detailed discussion. The brain principles make provision for the traditional model of teaching. They show, for instance, that every human being has a virtually unlimited set of memory systems that are designed for programming and for the memorization of meaningless information. But our minds also have the need to place memories and experience into a "whole"—and indeed our minds automatically do this. The "whole" is our autobiographical memory, which tells us how things in space relate and how ideas and experiences are connected. Without this type of memory, we could not find the bathroom twice without memorizing our route first, nor could we write a spontaneous sentence recalling an experience. Both memorization and integration are critical, and learning is best when information is embedded in rich, meaningful experiences. We also came to the conclusion that teaching for memorization of meaningless facts and procedures dictated by someone else usually induces downshifting. Downshifting is a psychophysiological response to threat associated with fatigue or perceived helplessness or both (Caine and Caine, 1991, 1994). Downshifting learners then bypass much of their capacity for higher-order functioning and creative thought.

In brain-based learning, educators see learners as active participants in the learning process. The teacher is not the deliverer of knowledge, but the facilitator and intelligent guide who engages student interest in learning. Students and teachers become partners in the pursuit of understanding. Traditional schooling assumes that children have to take on board lots of "stuff," and then somehow they will know how to apply it when they go to work or have a profession. Brain-based learning makes this leap to the real world right from the start.

Brain-based instruction begins with the entire school and the child's whole being. The brain is not divided into individual segments marked feelings or "cognitive development" or "physical activity." Rather, active learners are totally immersed in their world and learn from their entire experience. "Children," the saying goes, "learn what they live." Instruction is correspondingly complex. Whereas short lectures and memorization play a part, much more learning takes place when learners are constantly immersed in complex experience, when they process, analyze, and examine this experience for meaning and understanding, and when they constantly relate what they have learned to their own central purposes. When teachers assist students in engaging their own purposes, teachers may find that skill development, with its emphasis on practice, rehearsal, and refinement, becomes more effective. The challenge, therefore, is to fit skills and content to the learner, rather than fit the learner to the curriculum. We go in much greater depth on what this means later in the book. An example:

I teach 5th and 6th graders all subjects. The thing that works best for me about Open Charter School is that I have moved away from standing in front of the classroom. I have become a learner along with my children. I work side by side with them in their learning rather than assuming that everything that comes from my mouth is the most important thing that is going to be important to them.
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our own experiences and our own sense of self. Here's what one teacher participating in brain-based restructuring said about it:

I don't think it can be overemphasized how scary all this change is. I've always been willing and quite good at rearranging the deck chairs; I've never been asked to transfer from a steamship to a steamboat before. I can easily intellectualize about why and even how. Maybe the key is to remember it's not a leap but a journey where I can control the pace.

Our process together was an exercise in honesty and frustration as we began to uncover the forces that held current assumptions in place. The tension between teachers' need for techniques and strategies for the next day and our own emphasis on changing beliefs about learning and teaching required not only patience but the capacity to admit and accept that such a fundamental change does not happen overnight.

Our Main Surprise: Different Ways of Perceiving the World

As we worked with and observed teachers, both in our schools and around the United States, we began to see and confirm differences in what we call "instructional approaches." Though the details had not been clear to us, the central thrust of the differences was expected. After all, it was clear that those who used a stand-and-deliver model had to differ in significant ways from those who elicited student interests and then embedded content as appropriate. We ultimately distinguished between what we call Instructional Approaches 1, 2, and 3. Figure 1.2 (see p. 25) is a summary of the approaches, and we describe them in depth in Chapter 10.

As we pursued the matter, we also found something more. It is clear that the different instructional approaches reflect different mental models of teaching and learning. Mental models, however, go much deeper and farther than we expected. Mental models about teaching are themselves grounded in even more fundamental ways in which people look at things and interpret their world. The differences were something that we had intuitively felt but had not adequately artic-

ATED OR UNDERSTOOD. Richard Elmore recounts an experience in restructuring:

I recently gave a talk about school restructuring to a gathering of high school principals and superintendents from school districts that identified themselves as reform oriented. The common theme of their reforms was changing the high school schedule to lengthen the standard 45- or 50-minute class to something longer, perhaps as much as 90 minutes. When I asked them why they chose to concentrate so much energy and attention on changing the schedule, they first looked at me as if I had descended from another planet. To them it was obvious that changing the schedule would lead to a different kind of teaching, but it wasn't necessarily obvious what kind of teaching that might be. My favorite commentary on this problem is the teacher who was quoted as saying, after his school changed from 45- to 90-minute periods, "Oh, gosh, now I can show the whole movie." It is not obvious, in other words, that changes in teaching practice follow from changes in structure (Elmore 1999, pp. 23-25).

Figure 1.2
SUMMARY OF THE THREE INSTRUCTIONAL APPROACHES

Instructional Approach 1 can generally be described as a "stand-and-deliver" model. This approach relies on top-down thinking and the control of information and facts to be disseminated by teachers.

Instructional Approach 2 is considerably more complex and sophisticated than Instructional Approach 1. It is still primarily a command-and-control mode of instruction, with many of the same beliefs and practices as Instructional Approach 1, but there are some critical differences. Teaching used to be organized around concepts with an eye to creating meaning rather than just memorizing. To this end, it uses complex materials and can incorporate powerful and engaging experiences.

Instructional Approach 3 is what we had envisioned as brain based. It differs radically from Instructional Approaches 1 and 2 because it is much more learner centered, with genuine student interest as its core. This kind of teaching is more fluid and open. It includes elements of self-organization as students focus individually or gather collectively around critical ideas, meaningful questions, and purposeful projects. Instructional Approach 3 teaching is also highly organic and dynamic, with educational experiences that approach the complexity of real life.
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We finally described these more fundamental ways of looking at things as "perceptual orientations." The perceptual orientations frame the ways in which educators can think and perceive. The orientations set limits on what teachers can conceive of. Thus, those at Perceptual Orientation 1 cannot think out of the Instructional Approach 1. Those at Perceptual Orientation 2 can think about and potentially do both Instructional Approaches 1 and 2. But only those who are at Perceptual Orientation 3 can think in sufficiently fluid and integrated ways to embrace all three instructional approaches. One aspect of the perceptual orientation is a core difference between those who rely on the external power given them by the system and those who have a sense of self-efficacy and are self-reliant. The former find a stand-and-deliver model of teaching quite natural. The latter are much more capable of accepting and working with the individual choices expressed by students.

We describe the differences generally in terms of a distinction between Perceptual Orientation 1 and Perceptual Orientation 3. We suggest that there is a transitional phase, what we call Perceptual Orientation 2. And we argue that most work on restructuring education is currently directed at a shift from Perceptual Orientation 1 to 2, and that this thrust is essential.

Our Theme

A new way of thinking is required by the paradigm shift—but that way of thinking cannot be taught. As we explored the differences in perceptual orientations, we came to believe that system change requires educator change, and that educator change is a matter of personal transformation. The source of the resistance to schools to change lies in a system that is itself maintained by a set of absolutely compelling deep beliefs about learning, teaching, and the nature of reality itself.

In a sense, the traditional system was well served by the old paradigm. There was a good match between system and beliefs. That reciprocal relationship is now breaking down. A turbulent system requires a different set of beliefs—a different perceptual orientation. We need a new match.

This Book

Ultimately, this book describes a journey involving two specific schools and an unlimited and unnamed number of others that engaged in a process of restructuring based on changing mental models. It also includes corporations and businesses that were involved in exploring our process. It draws on more than 100 hours of recorded video and audio documentation showing the changes that took place in thinking and practice. In addition, we sent our own research questionnaire to numerous schools and individual educators.

Our objective is to contribute to a broader understanding of the change process—to help redraw a map of what it takes for educators and, in particular, teachers to change how they think and what they do as a result. This map will show what happens to men and women when they let go of the limitations of their old beliefs and expand them to include new lenses.

We divide the book into three distinct sections; each can be read separately as a "book" by itself.

Section 1. Theory: The Foundation

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All educational issues need to be reconceived in terms of the new sciences and a broader understanding of perceptual orientations. For example, people are legitimately concerned with raising educational standards. However, our conclusion is that the people who are capable of teaching to a new and more complex set of standards are those who see complexity as natural. Perceptual Orientation 3 must be supported in educators, therefore, if standards are to be raised significantly. However, the system itself is going to have to be reconfigured and must function in different ways if the fluid and dynamic instruction associated with Perceptual Orientation 3 is to be possible.

That, therefore, became the focus of our work, and of this book.

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Parma, and Rexburg, Idaho. Colleagues from these agencies and school districts were especially generous in their willingness to try out whole-system approaches and work with me in the process.

Finally, I thank the staff, fellow consultants, and my boss/friend/colleague, Wayne Dunnecutt, at National Training Associates. All of these friends and colleagues earned my admiration over the last 15 years for their continuing vision for youth-centered schools. They also earned my gratitude for their willingness to keep paying me to do the work I love.

Introduction

FOR WHOM THIS BOOK WAS WRITTEN

In the field of education, there are dedicated administrators, supervisors, faculty, support staff, and school board members who are striving diligently and heroically to improve the quality of education they provide to students. However, the school improvement tools and approaches currently available to them are based on principles of incremental, piecemeal change. These current approaches also have no credible evidence to support their effectiveness for improving school districts. This book is written for these people. It offers them an innovative methodology for redesigning entire school systems.

THE NEED FOR SYSTEMIC SCHOOL IMPROVEMENT

In organizations throughout the world there is a revolution under way in how these systems are organized and managed. Within the past 10 years, barriers to innovative thinking about organization and management have come down, and cutting-edge ideas are emerging quickly. "The business model hasn't changed dramatically in 70 years," says Chris Turner, the "learning person" for Xerox Business Services (XBS). She continued:

If you look around at business, at government, schools, and colleges, isn't it clear that it's time to think very differently [about organization and management]? I say to people, "You have a choice. You can be the last of the old generation of managers or you can be the first of a new generation." The revolution is going to happen. It's just a matter of whether you're with it or you're behind it. (cited in Webber, 1996, p. 51)

Our current schooling structures are also inflexible and outdated. They make schooling "agonizingly difficult" (Hargreaves & Fullan, 1998) for educators to respond to the needs of children.

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This book offers a cutting-edge methodology for redesigning entire school systems that has the potential to make significant and positive differences in the lives of school-age children and the adults who work with them. Our team-based methodology is designed to transform entire school systems into high-performing learning communities that create student, teacher, and system learning. This new methodology has the capacity to create what Brown and Moffett have called for: “changes in the culture, structure, policies, and perceptions of the place we call school.” This methodology is called Knowledge Work Supervision\(^*\).

School improvement must be strategic, systemic, and systemic. Although student learning is the core mission of a school system, it would not and could not occur in a large-scale systematic manner without the organizations called “school systems” and without the adults who work in them.

Systemic school improvement does not search for quick-fix solutions to complex problems. Instead, in the words of Richard Farson (1996), author of Management of the Absurd: Paradoxes in Leadership:

What we need when confronting a problem or a predicament is not quick action based upon a glimpse, but rather a careful consideration of all the issues involved, no matter how paradoxical or absurd. Such a process can lead to a new perspective... “doing” should follow thinking... Perhaps it is more like “steaming” than thinking. (p. 189)

**THE NEED FOR NEW APPROACHES TO SCHOOL DISTRICT IMPROVEMENT**

Why is there a need for a new approach to school district improvement? In the literature on school improvement, there are many reasons why schools need to be improved. In the same literature, there are many authors telling you what the outcomes of school improvement should be. Some of these models aim to improve individual school buildings, while others attempt to improve the curricula. Very few of them, however, talk about how to redesign entire school systems for high performance. Most of what is described in the literature represents incremental, piecemeal change.

Jack Dale (1997), the innovative, transformational leader for the Frederick County Public School system in Maryland, has talked about the problem of incremental, piecemeal change. He says that piecemeal change occurs as educators respond to demands from a school system’s environment. He asks:

How have we responded? Typically, we design a new program to meet each emerging need as it is identified and validated... The continual addition of discrete educational programs does not work... Each of the specialty programs developed have, in fact, shifted responsibility (burden) from the whole system to expect a specific program to solve the problem. (p. 34)

Regarding piecemeal change, Dale also observes that a permanently changed educational system is mandated. We cannot tinker around the edges. Instead, we must provide leadership and vision to change the entire system. We must create a system that perpetually examines itself and continually strives for improvement” (p. 35).

Lewis Rhodes (1997), former deputy director of the American Association of School Administrators, has also addressed the issue of piecemeal change. He says that educators experience the difficulty of perceiving and understanding the role of the school district as the fundamental unit for effective changes that must impact all children. It was a lot easier 30 years ago when John Goodlad popularized the idea of the school building as the fundamental unit of change. But now it is time to question that assumption—not because it is wrong, but because it is insufficient. Otherwise, how can we answer the question: “If the building is the primary unit at which to focus change efforts, why after 30 years has so little really changed?” (p. 19)

**THE NEED TO BUILD CAPACITY FOR SUSTAINING SCHOOL DISTRICT IMPROVEMENT**

Knowledge Work Supervision (KWS) is built on the premise that school systems must develop the capacity for sustaining districtwide improvements. This premise is supported in the literature. For example, O’Day, Goertz, and Floden (1995) said:

The most critical challenge is to place learning at the center of all reform efforts—not just improved learning for students, but also for the system as a whole and for those who work in it. For if the adults are not themselves learners, and if the system does not continually assess and learn from practice, then there appears little hope of significantly improving opportunities for all our youth to achieve to the new standards. (p. 1)
This book offers a cutting-edge methodology for redesigning entire school systems that has the potential to make significant and positive differences in the lives of school-age children and the adults who work with them. Our team-based methodology is designed to transform entire school systems into high-performing learning communities that create student, teacher, and system learning. This new methodology has the capacity to create what Brown and Moffett have called for: "changes in the culture, structure, policies, and perceptions of the place we call school." This methodology is called Knowledge Work Supervision™. School improvement must be strategic, systematic, and systemic. Although student learning is the core mission of a school system, it would not and could not occur in a large-scale systematic manner without the organizations called "school systems" and without the adults who work in them.

Systemic school improvement does not search for quick-fix solutions to complex problems. Instead, in the words of Richard Farson (1996), author of Management of the Absurd: Paradoxes in Leadership:

"What we need when confronting a problem or a predicament is not quick action based upon a glimpse, but rather a careful consideration of all the issues involved, no matter how paradoxical or absurd. Such a process can lead to a new perspective..."doing" should follow thinking... Perhaps it is more like "steering" than thinking." (p. 169)

**THE NEED FOR NEW APPROACHES TO SCHOOL DISTRICT IMPROVEMENT**

Why is there a need for a new approach to school district improvement? In the literature on school improvement, there are many reasons why schools need to be improved. In the same literature, there are many authors telling you what the outcomes of school improvement should be. Some of these models aim to improve individual school buildings, while others attempt to improve the curricula. Very few of them, however, talk about how to redesign entire school systems for high performance. Most of what is described in the literature represents incremental, piecemeal change.

Jack Dale (1997), the innovative, transformational leader for the Frederick County Public School system in Maryland, has talked about the problem of incremental, piecemeal change. He says that piecemeal change occurs as educators respond to demands from a school system's environment. He asks:

"How have we responded? Typically, we design a new program to meet each emerging need as it is identified and validated. ... The continual addition of discrete educational programs does not work. ... Each of the specialty programs developed have, in fact, shifted the responsibility (burden) from the whole system to expect a specific program to solve the problem." (p. 34)

Regarding piecemeal change, Dale also observes that "a permanently changed educational system is mandated. We cannot tinker around the edges. Instead, we must provide leadership and vision to change the entire system. We must create a system that perpetually examines itself and continually strives for improvement." (p. 35).

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A dynamic and learner-centered approach to education that produces students who are motivated for success.

"In an era when the idea of learner-centered teaching is widely advocated but seldom practiced, there is finally a book uncommonly faithful to this approach. Barbara McCombs and Jo Sue Whisler carefully blend years of research and practice to give teachers practical guidance and to spur the educational establishment to urgently needed reform."

—Reymond J. Wlodkowski, Ph.D., motivation expert and author of Eager to Learn and Diversity and Motivation

"McCombs and Whisler extract powerful, practical lessons from contemporary theories of learner-centered classrooms. An eminently readable and insightful contribution to the field of education."

—Martin V. Covington, professor of psychology, University of California-Berkeley and author of Making the Grade and Overcoming Student Failure

"The Learner-Centered Classroom and School gives us a vision of a truly powerful form of school reform: focusing the instructional process on the learner. McCombs and Whisler not only provide a comprehensive review of the research and theory on learning and motivation but they spell out in practical detail how teachers can use this information to implement a learner-centered approach. This book has the potential of drastically altering the promise and practice of education."

—Robert J. Marzano, deputy executive director for training and development, Mid-continent Regional Educational Laboratory, Aurora, Colorado, and author of Dimensions of Learning and A Comprehensive Guide to Designing Standards-Based Districts, Schools, and Classrooms
What Is “Learner Centered”?

I love my teacher and I love learning in this class. She knows me and makes learning fun.

—Middle School Student

I used to think I was a good teacher, but now I know I’m even better. I used to reach one end of an audience before. Now I reach both ends of that audience and students leave my class knowing that I’ve made a difference.

—High School Teacher

Many educators and psychologists have been urging us to reexamine our concepts of education, schooling, and whom the system serves (for example, Lincoln, 1993; Marshall, 1992; Sarason, 1995a). Consensus is emerging that schools are living systems—systems fundamentally in service to students—and that they serve the basic function of learning for the primary recipient (the student) and also for the other people who support the learning process (including teachers, administrators, parents, and other community members). Proponents of this learner-centered perspective further add that to support the function of learning for all learners, education and schooling must concern themselves with how to provide the most supportive learning context for diverse students—a context that is shaped primarily by the teacher and where that teacher “comes from” in terms of valuing and understanding the rich array of individual differences and needs that
students present. From this perspective, curriculum and content are important but not exclusive factors in students' desired motivation, learning, and achievement. What is as important as curriculum and content, and fundamental to the learning of curriculum and content, is attention to meeting individual learner needs.

The importance of meeting the basic needs of all learners in a learner-centered educational system is becoming particularly acute as this nation's schools face increasingly diverse student populations. What do we mean by learner centered? How do we distinguish this concept from child or student centered? How, too, do we differentiate it from older more traditional concepts of education and schooling? The purpose of this chapter is to define learner centered from a research and theory base that integrates what is known today about learners and learning.

When learner centered is defined from a research-based perspective including both learning and learners, we believe that definition establishes a foundation for clarifying what is needed to create positive learning contexts at the classroom and school levels, contexts in which the likelihood of more students experiencing success is increased. This goal is critical if this country is to achieve increased motivation, learning, and academic achievement for a much larger number of students, including many who are currently underachieving or dropping out. This research-based foundation that focuses on both learners and learning can also lead to increased clarity about the dispositions and characteristics of those who are in service to learners and learning—including teachers, administrators, parents, other community members, and the students themselves. Finally, a clear definition of learner centered will lead to clear definitions of the practices, programs, and policies that characterize learner-centered classrooms and schools.

The Learner-Centered Psychological Principles

In 1990, the American Psychological Association (APA) appointed a special Presidential Task Force on Psychology in Educa-

...tion whose purpose was twofold: (1) to determine ways in which the psychological knowledge base related to learning, motivation, and individual differences could contribute directly to improvements in the quality of student achievement and (2) to provide guidance for the design of educational systems that would best support individual student learning and achievement. One task force project, directed by Barbara McCombs, was to integrate, from psychology, education, and related disciplines, research and theory concerned with education and the process of schooling. The purpose was to surface general principles that could form a framework for school redesign and reform. The resulting document, Learner-Centered Psychological Principles: Guidelines for School Redesign and Reform, specified twelve fundamental principles about learners and learning. Taken as a whole, they provide an integrated perspective on factors influencing learning for all learners.* Together, they are intended to be understood as an organized knowledge base that supports a learner-centered model.

No one principle can be considered in isolation if maximum learning is to occur for each student. The principles are categorized into domains of basic factors that cannot be ignored in understanding individual learners and the learning process, as they provide the foundation for sound teaching practices. The domains describe areas identified in the research as having an impact on learning. The factors making up the domains are related to the intellectual aspects of learning (neocognitive and cognitive factors); motivational influences on learning (affective factors); individual differences in intellectual, social, emotional, and physical development areas (developmental factors); influences of the individual's own self-assessments and the assessments of others on learning (personal and

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EXHIBIT 1.1 (continued)

relevant, authentic learning tasks of optimal difficulty and novelty for each student.

DEVELOPMENTAL FACTORS
Principle 8: Developmental constraints and opportunities. Individuals progress through stages of physical, intellectual, emotional, and social development that are a function of unique genetic and environmental factors.

PERSONAL AND SOCIAL FACTORS
Principle 9: Social and cultural diversity. Learning is facilitated by social interactions and communication with others in flexible, diverse (in age, culture, family background, etc.), and adaptive instructional settings.

Principle 10: Social acceptance, self-esteem, and learning. Learning and self-esteem are heightened when individuals are in respectful and caring relationships with others who see their potential, genuinely appreciate their unique talents, and accept them as individuals.

INDIVIDUAL DIFFERENCES
Principle 11: Individual differences in learning. Although basic principles of learning, motivation, and effective instruction apply to all learners (regardless of ethnicity, race, gender, physical ability, religion, or socioeconomic status), learners have different capabilities and preferences for learning mode and strategies. These differences are a function of environment (what is learned and communicated in different cultures or other social groups) and heredity (what occurs naturally as a function of genes).

Principle 12: Cognitive filters. Personal beliefs, thoughts, and understandings resulting from prior learning and interpretations become the individual's basis for constructing reality and interpreting life experiences.


EXHIBIT 1.2 Domains of Learner-Centered Principles.

METACOGNITIVE AND COGNITIVE
These four principles (1 through 4) describe how a learner thinks and remembers. They describe factors involved in the construction of meaning from information and experiences. They also explain how the mind works to create sensible and organized views of the world and to fit new information into the structure of what is already known. They conclude that thinking and directing one's own learning is a natural and active process and, even when subconscious, occurs all the time and with all people. What is learned, remembered, and thought about, however, is unique to each individual.

AFFETIVE
These three principles (5 through 7) describe how beliefs, emotions, and motivation influence the way in which people perceive learning situations, how much people learn, and the effort they are willing to invest in learning. Individuals' emotional state of mind, beliefs about personal competence, expectations about success, and personal interests and goals all influence how motivated they are to learn. Although motivation to learn is natural under conditions and about things people perceive to be personally relevant and meaningful, motivation may need to be stimulated in situations that require individuals to learn what seems uninteresting or irrelevant to them.

DEVELOPMENTAL
This principle (8) recognizes capacities for learning that are known to develop or emerge over time. It is based on research documenting the changes in human capacities and capabilities over the lifespan. It informs us about the identifiable progressions of physical, intellectual, emotional, and social areas of development that are influenced by unique genetic or environmental factors. These progressions vary both across and within individuals and thus cannot be overgeneralized for any one individual or group of individuals because of the risk of limiting opportunities for learning. The important generalization in this domain is that individuals learn best when material is appropriate to their developmental level and presented in an enjoyable, interesting, and challenging way.
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PERSONAL AND SOCIAL
These two principles (9 and 10) describe the role that others play in the learning process and the way people learn in groups. These principles reflect the research that shows that people learn from each other and can help each other learn through the sharing of their individual perspectives. If learners participate in respectful and caring relationships with others who see their potential, genuinely appreciate their unique talents, and accept them as individuals—both learning and feelings of self-esteem are enhanced. Positive student-teacher relationships define the cornerstone of an effective learning environment—one that promotes both learning and positive self-development.

INDIVIDUAL DIFFERENCES
These two principles (11 and 12) describe how individuals' unique backgrounds and capabilities influence learning. These principles help explain why individuals learn different things, at different times, and in different ways. Although the same basic principles of learning, thinking, feeling, relating to others, and development apply to all individuals—what they learn and how this learning is communicated differs in different environments (for example, cultural or social groups) and as a function of heredity. From their environment and heredity, people create unique thoughts, beliefs, and understandings of themselves and their world. Appreciating these differences and understanding how they may show up in learning situations is essential to creating effective learning environments for all students.

should be broader because it is clear that the twelve principles apply to all individuals, from the very young to the very old, from students in the classroom to teachers, administrators, parents, and others influenced by the process of schooling and by other formal and informal learning experiences.

Some people equate learner centered with child or student centered and with a focus on the affective side of education—the quality of interpersonal relationships and learning environments. They equate it with creating climates of caring and with focusing on fostering students' self-esteem and sense of well-being. Again, we believe these are important but make up only part of the picture. The domain covered by the principles—the metacognitive and cognitive, affective, personal and social, developmental, and other individual differences factors—emphasize both the learner and learning. A central understanding that emerges from an integrated and holistic look at the principles is that for educational systems to serve the needs of all learners, it is essential that they have a focus on the individual learner as well as an understanding of the learning process. Thus, we have evolved the following definition of learner centered:

DEFINITION OF "LEARNER CENTERED"
The perspective that couples a focus on individual learners (their heredity, experiences, perspectives, backgrounds, talents, interests, capacities, and needs) with a focus on learning (the best available knowledge about learning and how it occurs and about teaching practices that are most effective in promoting the highest levels of motivation, learning, and achievement for all learners). This dual focus then informs and drives educational decision making. The learner-centered perspective is a reflection of the twelve learner-centered psychological principles in the programs, practices, policies, and people that support learning for all.

This definition in company with the principles themselves leads to five fundamental conclusions about learners and learning.
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This definition in company with the principles themselves leads to five fundamental conclusions about learners and learning.
Because these conclusions offer a distillation of the principles and a holistic and integrative view of key assumptions about the meaning of learner centered, we call them premises of a learner-centered model. Later on we will use these premises to organize implications for practice in order to simplify the discussion.

**Premises of the Learner-Centered Model**

1. Learners are distinct and unique. Their distinctiveness and uniqueness must be attended to and taken into account if learners are to engage in and take responsibility for their own learning.

2. Learners’ unique differences include their emotional states of mind, learning rates, learning styles, stages of development, abilities, talents, feelings of efficacy, and other academic and nonacademic attributes and needs. These must be taken into account if all learners are to be provided with the necessary challenges and opportunities for learning and self-development.

3. Learning is a constructive process that occurs best when what is being learned is relevant and meaningful to the learner and when the learner is actively engaged in creating his or her own knowledge and understanding by connecting what is being learned with prior knowledge and experience.

4. Learning occurs best in a positive environment, one that contains positive interpersonal relationships and interactions, that contains comfort and order, and in which the learner feels appreciated, acknowledged, respected, and validated.

5. Learning is a fundamentally natural process; learners are naturally curious and basically interested in learning about and mastering their world. Although negative thoughts and feelings sometimes interfere with this natural inclination and must be dealt with, the learner does not require “fixing.”

None of these premises needs to take a particular form or look a particular way. However, they must be reflected in the beliefs, characteristics, dispositions, and practices of teachers. When this occurs, teachers’ interactions with learners and the programs and practices they adopt can maximize learning for each student. Generally this means that (1) learners are included in educational decision-making processes, whether those decisions concern what learners focus on in their learning or what rules are established for the classroom; (2) the diverse perspectives of learners are encouraged and respected during learning experiences; (3) the differences among learners’ cultures, abilities, styles, developmental stages, and needs are accounted for and respected; and (4) learners are treated as co-creators in the teaching and learning process, as individuals with ideas and issues that deserve attention and consideration. The learner-centered model can be diagrammed as an integration of all this knowledge about learners and learning (see Figure 1.1). Applying this knowledge goes further, however. For teachers, it means functioning in a manner consistent with the foundational knowledge represented in the premises of the model. This knowledge shows up in teachers’ beliefs, dispositions, characteristics and practices.

To make this model more meaningful and further clarify how learner centered differs from child or student centered, consider the following two examples.

**Elementary Example**

Ms. Jordan teaches second grade. She loves this age level and shows it in her caring attitude toward her students. When a student doesn’t feel like putting in a lot of effort and hard work on a project, she finds something else for the student to do and may even excuse him from the assigned schoolwork. Her students love her but know she won’t demand much from them. Many of them later report that they wish she had also been a little more demanding of them in their learning and work.

Conversely, Ms. Williams, who also teaches second grade, expects all her students to work hard and develop a sense of responsibility for their own learning. She takes time to know each student personally and knows their strengths and interests.
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Mr. Stevens's freshmen algebra class is very different. He starts the class with exercises that help the students get to know him and each other as they apply simple algebraic concepts such as grouping relationships in equations. In this familiar context in which they are interested and having fun, the students realize that algebra can be a useful subject. The students leave Mr. Stevens's class believing that he knows them and respects them. They also know that they have been helped to learn a valuable subject they may not have thought they could learn or use.

Although these contrasts between child-centered and learner-centered practices may seem extreme, they represent what most individuals have experienced or observed about various educational practices. Many people see child-centered practices as "soft," not rigorously attentive to the effective learning of needed knowledge and skills. Even though this characterization may be unfair, it exists, and one reason we have chosen the term learner centered is to move clearly beyond that concept to one that couples a concern with the individual learner with the best available knowledge about how learning occurs and with the use of practices that best promote high levels of learning, motivation, and achievement.

From Content to Learning and Learners

In the past, educators have most often approached the business of schooling with a concentration on the teaching of content—that is, on what and how much must be taught in various traditional academic subjects. Learning and learners are, at best, an implied component. This is particularly true at the high school level and beyond and is supported by the dominant method of teacher preparation: a focus on discipline knowledge often to the exclusion of pedagogical knowledge and skills. With the popularity of the standards movement, which identifies what is important for learners to know and be able to do, this attention to content has moved...
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to in-service teacher education as well. That is, with this shift from what to teach to a focus on what must be learned by each student, attention moves to the learner's performance or demonstration of the knowledge or skills identified as important by the standards.

This shift in focus from teaching required content to learning valued knowledge and skills goes only half the distance necessary, however, if the goal is to educate all students. Why? Because without a corresponding focus on individual learners, educators are in danger of continuing to ignore students' calls for help when these students say they think school is irrelevant, report feeling disconnected from their teachers and peers, or drop out mentally or physically because they just do not want to be in school. It takes more than the identification of the most important knowledge and skills to address these concerns, although student interest in standards and even input into the process of selecting them can contribute to addressing some concerns. Focusing on standards and learning is necessary but is in itself not sufficient.

The learner-centered model focuses equally on the learner and learning. The ultimate goal of schooling is to foster the learning of learners; and learners learn best when they are an integral part of the learning equation. This means that the following are recognized and taken into account in students' schooling experiences: the relevance and meaningfulness of what students are being asked to learn, students' distinctiveness and uniqueness, the support available to students from the environment, the relationships within which students' learning occurs, and educators' beliefs about the naturalness of students' learning. And as we stated earlier, it is by focusing on what is known about both learners and the learning process that educators gain a chance at having each student meet high academic standards.

The learner-centered model best serves as a lens through which to view and plan for schooling—from student-adult relationships to curriculum, instruction, and assessment to policies, procedures, and structures in classrooms, buildings, and districts. When educators adopt the learner-centered model, the five premises that emanate from the learner-centered psychological principles become the foundation upon which they function. Although specific actions and programs may be extremely diverse, where people come from as they engage in those actions and programs is common and consistent, as is their understanding of what promotes maximum motivation to learn and successful learning by all learners. This commonality and consistency are reflections of the learner-centered model and its five premises.

Deborah Meier, founder and director of the Central Park East School in New York City (a school with a more than twenty-five-year history of success), has stated that the educational system needs a wide diversity of schools that support stable personal relationships more than ever (Meier, 1995). We believe that educators also need to acknowledge that equal attention must be given to learners' individual needs and attributes if schools are to maximize the likelihood that all students will achieve identified standards. (And we agree that fundamental knowledge and skills do exist without which it is difficult for anyone to function in life and make the most of whatever gifts he or she has to offer.) We also believe that educators' thinking needs to take advantage of students' rich diversity of individual differences and talents, all of which are needed in today's complex world. We ought to honor multiple intelligences (Gardner, 1993, 1995) as well as the goal that Elliott Eisner (1994, pp. 6-7) describes: "Rather than trying to ensure that every student gets to the same place at the same time, schools should strive to raise the mean in performance and increase the variance of students' interests and strengths. Educators ought to be cultivating productive idiosyncrasy, playing to the youngsters' talents . . . because in the long haul it's the cultivation of these positive attitudes that will feed back into the culture."

How can we who are educators accomplish this goal? When we use a sound set of principles that guide our hearts, thinking, and decision making, we have a foundation for developing significant educational models that help all learners develop their unique capacities and talents and maximize their learning of those things
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Contrast the way people interact with educators with the way they interact with medical practitioners. Few people tell their doctors what to do or recommend treatment that “was good enough for me thirty years ago.” They seem to understand that medical practitioners have at least some level of expertise in their fields and that new knowledge and conditions dictate new solutions and new ways of thinking. Yet when it comes to education, people often offer simplistic and familiar solutions and are quick to play expert.

Educators themselves are also often resistant to change. First, there always seems to be a new bandwagon, one that frequently “comes in with a bang and goes out with a whimper.” Policies, programs, and practices commonly change with changes in school administrations or legislative mandates. Rather than evaluate the educational impact of each bandwagon, many educators, somewhat understandably, hope it will go away as have so many others before it. Second, educators often feel saddled with all the responsibility for student success or failure in school and in life. They know that
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Shifting Beliefs and Assumptions About Learners, Learning, and Teaching

Throughout history, all major changes have required a transformation in thinking, seeing, or interpreting reality—that is often called a paradigm shift. In this current era of educational reform, many shifts in thinking are being proposed. Educators are being asked to adopt thinking that holds that “all students can learn” and to see education as a “shared responsibility” among all constituencies—students, teachers, administrators, parents, and community members. Educators are also being asked to confront old models and beliefs about how individuals learn and how best to promote the learning process. In any time of significant change, people are forced to confront old beliefs and assumptions and to challenge themselves to revise these views based on evidence that a change is needed. For this process to be successful, however, people need to know why such a shift is needed, what the shift entails, and how to make the shift. This certainly is the case when educators are asked to adopt a learner-centered approach.

One current problem is that neither the public nor many educators are convinced that change is needed. Because all people have
what they do in school, no matter how positive, can get “undone” outside of school. Such concern is valid, and the teacher's work is often undermined outside the classroom, yet one teacher often can make the crucial difference for an otherwise certain to fail student (see, for example, Gordon, 1992, and Levine and Nichiher, 1996, for stories of individuals from poor and disadvantaged situations who have “beaten the odds” because of teacher support).

Even educators who are open to change feel uncertainty about what kind of changes will be most effective and how best to go about making them. They also question whether any changes can be successful given what appears to be a complex and overwhelming set of problems and issues underlying educational systems change. Feelings of fear, frustration, hopelessness, and despair abound, as well as a sense that “we’re already doing so much — how can we possibly do more?” In such an atmosphere, it is easy to hold on to old beliefs and assumptions, to stay within the comfort zone of old ways of thinking about and doing education, and to avoid the issue as long as possible. Is there a way to break through this resignation and inertia? What might increase hopefulness about change and thus willingness to change?

Self-Assessing Personal Beliefs

We have been taking these questions seriously as we ourselves examine our own beliefs and thinking about learning, learners, and teaching. We have looked to the research literature to inform us about what needs to change and why. We have challenged ourselves to discover a sound foundation of research-based principles that can guide the change process. In our efforts, we have learned to question even the most pervasive assumptions and ideas being proposed. For example, we have learned from the research that not only can all students learn but all students do learn. Research from cognitive and developmental psychology clearly supports the view that learning is a natural and ongoing process, that it occurs continuously for all learners, cradle to grave (Alexander & Murphy, in press; McCombs, 1994c). We have examined the differences in educational systems based on the “can learn” versus the “do learn” philosophy and have seen clear evidence of the superiority of those systems that assume all students do learn (McCombs & Stiller, 1995). The “do learn” environments respect and accommodate student diversity by assuming that learning and motivation are natural and that students can be trusted to guide their own learning process; they do not have to be sorted by others into presumed categories of ability. Learning methods, content, and performance demonstrations are variable and determined with student input, not selected for students in ways that may limit student potential. Practices are inclusive and accepting of multiple abilities, and they value the cultivation and demonstration of diverse talents, both academic and nonacademic.

Our examination has led us to a recognition that educational systems are more successful with more learners when they are designed from a research-based set of principles that focus on learners and learning and that are translated into a core philosophy and culture. We also have realized that change is more likely to occur when educators and others are assisted in self-assessing and reflecting on their basic beliefs and assumptions, and in engaging in critical inquiry about issues identified in the research on learners and learning. We believe these are essential steps in the change process. We now challenge you, our readers, to assess your fundamental beliefs and assumptions about learners, learning, and teaching. Take a few minutes to engage in the self-assessment exercise in Exhibit 1.3. The more truthful you can be in your responses and the more you resist the temptation to give what you believe to be “acceptable” or “right” answers, the more useful the results of this assessment will be to you. To determine how your beliefs “measure up” to those identified as learner centered, turn to Appendix A for self-scoring instructions and score explanations.

Do teachers’ learner-centered beliefs have a positive impact on student motivation, learning, and success? Our research (McCombs & Stiller, 1995) looked at the impact of teacher beliefs on teacher perceptions of their classroom practices and at how teacher perceptions
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**EXHIBIT 1.3 Teacher Beliefs Survey.**

Please read each of the following statements. Then decide the extent to which you agree or disagree. Circle the number to the right of the question that best matches your choice. Go with your first judgment and do not spend much time mulling over any one statement. PLEASE ANSWER EVERY QUESTION.

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<td>No matter what I do or how hard I try, there are some students who are unreachable.</td>
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<td>Knowledge of the subject area is the most important part of being an effective teacher.</td>
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<td>Students will be more motivated to learn if teachers get to know them at a personal level.</td>
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<td>Income ability is fairly fixed and some children just can’t learn as well as others.</td>
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<td>24.</td>
<td>One of the most important things I can teach students is how to follow rules and to do what is expected of them in the classroom.</td>
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<td>27.</td>
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<td>Being willing to share who I am as a person with my students facilitates learning more than being an authority figure.</td>
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</table>

Source: Developed by Midcontinent Regional Educational Laboratory (McREL). 1994. Reprinted with permission of McREL.
| 20. No matter what I do or how hard I try, there are some students who are unreachable. | Strongly Disagree | Somewhat Disagree | Somewhat Agree | Strongly Agree | 1 | 2 | 3 | 4 |
| 21. Knowledge of the subject area is the most important part of being an effective teacher. | Strongly Disagree | Somewhat Disagree | Somewhat Agree | Strongly Agree | 1 | 2 | 3 | 4 |
| 22. Students will be more motivated to learn if teachers get to know them at a personal level. | Strongly Disagree | Somewhat Disagree | Somewhat Agree | Strongly Agree | 1 | 2 | 3 | 4 |
| 23. Inadequate ability is fairly fixed and some children just can’t learn as well as others. | Strongly Disagree | Somewhat Disagree | Somewhat Agree | Strongly Agree | 1 | 2 | 3 | 4 |
| 24. One of the most important things I can teach students is how to follow rules and to do what is expected of them in the classroom. | Strongly Disagree | Somewhat Disagree | Somewhat Agree | Strongly Agree | 1 | 2 | 3 | 4 |
| 25. When teachers are relaxed and comfortable with themselves, they have access to a natural wisdom for dealing with even the most difficult classroom situations. | Strongly Disagree | Somewhat Disagree | Somewhat Agree | Strongly Agree | 1 | 2 | 3 | 4 |
| 26. Teachers shouldn’t be expected to work with students who consistently cause problems in class. | Strongly Disagree | Somewhat Disagree | Somewhat Agree | Strongly Agree | 1 | 2 | 3 | 4 |
| 27. Good teachers always know more than their students. | Strongly Disagree | Somewhat Disagree | Somewhat Agree | Strongly Agree | 1 | 2 | 3 | 4 |
| 28. Being willing to share who I am as a person with my students facilitates learning more than being an authority figure. | Strongly Disagree | Somewhat Disagree | Somewhat Agree | Strongly Agree | 1 | 2 | 3 | 4 |

| 29. I know best what students need to know and what's important; students should take my word that something will be relevant to them. | Strongly Disagree | Somewhat Disagree | Somewhat Agree | Strongly Agree | 1 | 2 | 3 | 4 |
| 30. My acceptance of myself as a person is more central to my classroom effectiveness than the comprehensiveness of my teaching skills. | Strongly Disagree | Somewhat Disagree | Somewhat Agree | Strongly Agree | 1 | 2 | 3 | 4 |
| 31. For effective learning to occur, I need to be in control of the direction of learning. | Strongly Disagree | Somewhat Disagree | Somewhat Agree | Strongly Agree | 1 | 2 | 3 | 4 |
| 32. Accepting students where they are—no matter what their behavior and academic performance—makes them more receptive to learning. | Strongly Disagree | Somewhat Disagree | Somewhat Agree | Strongly Agree | 1 | 2 | 3 | 4 |
| 33. I am responsible for what students learn and how they learn. | Strongly Disagree | Somewhat Disagree | Somewhat Agree | Strongly Agree | 1 | 2 | 3 | 4 |
| 34. Seeing things from the students' point of view is the key to their good performance in school. | Strongly Disagree | Somewhat Disagree | Somewhat Agree | Strongly Agree | 1 | 2 | 3 | 4 |
| 35. I believe that just listening to students in a caring way helps them solve their own problems. | Strongly Disagree | Somewhat Disagree | Somewhat Agree | Strongly Agree | 1 | 2 | 3 | 4 |

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of practice differ from student perceptions of these same practices. In a large-scale study, we confirmed our hypothesis about the positive impact of beliefs and practices consistent with the research on learners and learning. We also found that teachers who are more learner centered are more successful in engaging more students in an effective learning process and are also more effective learners themselves and happier with their jobs. Furthermore, teachers report that the process of self-assessment and reflection—particularly on discrepancies between their own and their individual students’ experiences of classroom practices—helps them identify areas in which they might change their practices to be more effective in reaching more students. This is an important finding that relates to the “how” of transformation. It says that helping teachers and others engage in a process of self-assessment and reflection provides a respectful and nonjudgmental impetus to change. Combining the opportunity for teacher self-assessment and reflection on beliefs and practices with skills training in how to create learner-centered schools and classrooms can help complete the transformation.

Profiles of Learner-Centered Teachers

To show a clear picture of the differences between a learner-centered and non-learner-centered orientation, we have created two contrasting profiles, each based on the beliefs described in the Teacher Beliefs Survey (Exhibit 1.3). As in any two-category profile, assumptions must, by necessity, fall into one category or the other, and thus the profiles may appear to paint absolute pictures. However, in reality, most teachers do not subscribe to all the beliefs in either profile but have a combination of beliefs, although usually attributes of one profile or the other will be dominant.

PROFILE OF TEACHER WITH LEARNER-CENTERED ASSUMPTIONS

All students have the potential to learn. In order to maximize learning, I need to help students feel comfortable discussing their feelings and beliefs. Addressing students’ social, emotional, and physical needs is important for learning to occur. Helping students understand how their beliefs about themselves affect learning is as important as working on their academic skills. Students have the natural ability to direct their own learning.

When teachers are relaxed and comfortable with themselves, they have access to a natural wisdom for dealing with even the most difficult classroom situations. Being willing to relate to each student as a unique individual facilitates learning more than does being an authority figure. In addition to focusing on what needs to be taught, teachers need to support students in pursuing their own interests in school and in connecting learning to their life situations.

Accepting students where they are—without condemning their behavior—makes them more receptive to learning. I have faith in my ability to make a difference with all students. Seeing things from the students’ point of view is a key to their good performance in school. I believe that listening to students in a caring way helps them solve their own problems.

PROFILE OF TEACHER WITH NON-LEARNER-CENTERED ASSUMPTIONS

If students are not doing well, they need to go back to the basics and do more drill and skill development. My most important job as a teacher is to help students meet established curriculum standards. Left to their own devices, most students can’t really be trusted to learn what they need to know. If I don’t prompt and provide direction for student questions, students won’t get the right answer. Knowing my subject matter really well is the most important contribution I can make to student learning.

Good teachers always know more than their students.

There are so many complex reasons why students misbehave that it’s not worth my time to figure out what I should do. Besides, I can’t affect the things that happen outside of
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school. If I give too much control to students in my class, they will take advantage of me. For students to respect me as a teacher, it is essential that I maintain my role as an authority figure. One of the most important things I can teach students is how to follow rules and to do what is expected of them in the classroom. Innate ability is fairly fixed and some children just can’t learn as well as others. Some students just don’t want to learn. Teachers shouldn’t be expected to work with students who consistently cause problems in class. I know best what students need to know and what’s important. Students should take my word that what I’m teaching will be relevant to them sometime in their lives.

Again, most teachers do not fall totally within one profile or the other but share some attributes of each. In general, however, we have found that teachers who lean toward the non-learner-centered profile tend to direct what students learn and how they learn it, assert their authority through dictated and arbitrary rules, try to keep students on their toes (by giving pop quizzes, for example), concentrate solely on building students’ intellectual capacity, and focus on getting through the required curriculum.

Those who tend toward the learner-centered profile focus on the student as well as on the student’s learning. A focus on the student generally entails better communication and cooperation with the student. These teachers are more likely to take into account what students want to learn, include students in the setting of learning goals, and support students as they learn to take increasing responsibility for their own learning; sometimes individually and sometimes in cooperative groups. These teachers are more inclined to draw on students’ unique talents, capacities, and strengths to bring about desired learning outcomes—that is, they focus on learning outcomes desired by both teacher and student. Learner-centered teachers also have a propensity to cultivate not just intellectual but also social and emotional growth within and among students.

Teacher Beliefs About What It Means to Be Learner Centered

Conversations with teachers clearly reveal that they have very different beliefs and assumptions about what it means to be learner centered. Teachers, like everyone else, form their beliefs and perceptions from personal experience, education, and values. Teachers’ fundamental beliefs about education are important because they consciously and unconsciously shape how teachers see and relate to learners, learning, and teaching. For example, teachers can see learners from a strength or a deficit perspective (as having everything they need within them to succeed or as missing motivation and capability to learn, which qualities then need to be added or fixed); they can see learning as a natural process or as something students have to be taught to do and they can see teaching as a process of facilitation and guidance or a process of directing and controlling learning. Thus, what teachers believe and assume about learners, learning, and teaching affects what they do, their behaviors and practices at the school and classroom levels. More importantly, teachers’ awareness of their specific assumptions and beliefs about learners, learning, and teaching helps prevent hidden cultures in classrooms, cultures that are felt by both students and teachers but that cannot be addressed because they are unacknowledged.

It is thus important to define and help teachers become more aware of those beliefs and assumptions about learners, learning, and teaching that are consistent with an instructional orientation toward the learner’s needs, capacities, and perspectives and toward learning as a process of personally constructing meaning. These are the beliefs and assumptions that lead to practices that are respectful, empowering, and facilitative of learning. These beliefs define the learner-centered teacher. Conversely, beliefs and assumptions about learners, learning, and teaching that reflect a deficit perspective about students and an interest in content alone are often but not always consistent with a traditional orientation that can be defined as non-learner centered. One of our goals in our ongoing research
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and examination became to define these two orientations more specifically; that is, to identify those beliefs that help learners feel valued and respected as individuals and those beliefs that alienate students or lead them to feel devalued as learners.

We found in our research that teachers were not absolutely learner centered or completely non-learner centered. Different learner-centered teachers had different but overlapping beliefs. At the same time, however, because specific beliefs or teaching practices could be classified as learner centered or non-learner centered, learner-centered teachers can be simply defined as those that have more learner-centered than non-learner-centered beliefs and practices. Clearly, believing that all students learn is quite different from and more learner centered than believing that some students cannot learn. Learner-centered teachers see each student as unique and capable of learning, have a perspective that includes the learner (knowing that this promotes learning), understand basic principles defining learners and learning, and honor and accept the learner’s point of view (McCombs & Stiller, 1995). As a result, the student’s natural inclinations to learn, master the environment, and grow in positive ways are enhanced.

Characteristics and Dispositions of Learner-Centered Teachers

Learner-centered teachers also tend to have some general characteristics and dispositions in common. McKelvie (1990, 1992, 1995) talks about what makes a good teacher great. We believe that those whom he and others call good teachers have characteristics and dispositions we call learner centered. Evidence from the Purdue studies (Remmers) that took place from the 1920s to the 1960s shows that student ratings identify good teachers as those who demonstrate interest in their subject, a sympathetic attitude toward students, fairness in grading, a sense of humor, and a liberal attitude. The Michigan studies of the 1950s (described in Pintrich, Brown, & Weinstein, 1994) show that students believe that good teachers put across material in interesting ways, stimulate intellectual curiosity, give clear explanations, are skillful in observing student reactions, are friendly, and provide clear structure and organization to the materials presented. Good teachers are also found to give quality feedback, are available and helpful, are fair, have a concern for their students, are enthusiastic about their subject matter and teaching, organize materials and information, and give clear explanations.

McKeachie also reports what teachers believe to be characteristics of good teachers; most of these characteristics overlap with those students identify. Good teachers are enthusiastic, seem interested in teaching, use good examples, are concerned about student learning, encourage students to express opinions, and are well organized.

What do good teachers do? Observations of good teachers (Murray & Renaud, 1995) show that good teachers speak expressively, move around, use humor, are enthusiastic, are clear (use concrete examples, signal transitions, repeat difficult material), call students by name, ask questions of students, are respectful of students, and have rapport with them (these teachers are friendly, flexible, available to talk to, and the like). Again, many of these actions are ones we define as learner centered.

Interestingly, many of the characteristics and dispositions that we believe define learner-centered teachers are similar or identical to those that describe expert teachers as well. For example, in a study aimed at differentiating between expert and experienced teachers, Henry (1994) cites the following as differentiating an expert teacher: knows the content, works with all students, nurtures, takes risks, respects students, is interested in individual student needs, participates in continuing professional growth, is self-confident and reflective, adjusts the context to learners, is slow to close the learning process, makes multiple concept connections, is enthusiastic, uses teachable moments, uses a variety of strategies, has good classroom management, and acknowledges own lack of knowledge (shares the ownership of knowing).
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Stiller, 1995). And there is more time to spend with individual students. The point is, when educators put learners squarely in the center of the learning process, they do what works best for each student as an individual learner. The result is increased motivation, learning, and achievement.

Generally speaking, then, the benefits of a learner-centered perspective and corresponding learner-centered practices are attributable to compliance with regulated learning in other fields. What is understood by learner-centered model for leaning is learning. Learner needs, interests, and the personally learning process. Findings in human development, integrated in ways to the individual, articulate "learning" in the learning principles for which an articulation has never been possible, nor has there been an attempt to accommodate the individual in the educational system — a system that values conformity and value-relevant to personal and cultural contexts. Because conventional education often ignores current understandings of learners and learning, it does not incorporate student perspectives, needs, and talents. The result is the increased devaluing of schooling and learning by too many of our students.

Many of these students are frustrated by the lack of caring they experience in their schools as well as the absence of a sense of relevance about what they are being asked to learn and do. This is true for many urban, suburban, and rural students of all ability levels but is particularly true for minority students, whom race and culture can be sources of alienation. More students of color are entering schools and are finding the dominant school culture to be in conflict with their home culture. Many teachers have difficulty working with ethnic minority students. Understanding and accommodating different frames of reference can be an enormous and overwhelming challenge.

Not only are students left wanting something different but teachers also feel frustrated. They report that relationships with students have suffered as they feel pressured to cover curriculum and prepare students for tests. They also report a lack of administrative support and relationships with administrators that are mostly centered around rules, regulations, and results. Teachers complain about not being trusted or respected by legislators, parents, and even colleagues. Policymakers may generate mandates without
understanding what really goes on in classrooms or what it takes and how long it takes to bring about personal and systemic change. Teachers thus feel confused and put upon by these mandates because the mandates often do not take into account the realities of schooling and what is involved in bringing about change.

Administrators also feel pressure to meet policy-driven demands and are frustrated because they have little time to devote to the fundamental issues of teaching and learning or to meeting with teachers about their work in the classroom. Administrators are often the ones who are called on to negotiate problems between teachers and parents, having to walk a fine line between the two. In short, such forms and degrees of alienation among such key participants make it hard for schools to do their best. The time has come to reevaluate the foundational principles that underlie this country's educational system, a task we have addressed in the first chapter.

The answer to the question why learner centered? can be summarized as follows:

- The research evidence is abundant and accumulating that motivation, learning, and achievement are enhanced where learner-centered principles and practices are in place—practices that address the personal domain, which is often ignored.
- The benefits of learner-centered practice extend to students, teachers, administrators, parents, and all other participants in the educational system.
- The changes in our society necessitate a change in the role and function of schools so that they better meet the needs of the learner as a whole person, whether that person is a student, teacher, administrator, or parent.
- Change itself requires a transformation in thinking (and thus a process of learning); this transformation can be facilitated by an understanding of basic principles about learning and learners.

least was not always learner centered. She gave us some but not a lot of choice about what we wanted to learn. She often proffered the "right" answer in lieu of inquiry. We more often worked independently than in groups. She was what we called "strict," being somewhat directive as she provided structure. However, in many ways, and certainly in my experience, Miss Slike was very learner centered.

When I look at the results she produced and examine her ways of being and other practices, the point that learner centered does not look any one particular way is driven home.
Some learner-centered teachers have lots of rules and require quiet and
strict behavior; others have looser, less formal guidelines. Some
are serious; others are funny. Some are more authoritarian (tem-
pered with caring and respect); others are more laissez-faire. Again,
being learner-centered is as much a matter of personal disposition—
where teachers come from in their interactions—as it is the specific
actions teachers take in managing the classroom.

Summary

There is no question that many classrooms in this country produce
students who are motivated to learn, learn, and achieve academic
success. We have proposed that the classrooms in which this occurs
are what we would call learner centered and that many of the
teachers in these classrooms are the way they are and do what they
do naturally and somewhat intuitively. We also have maintained
that being learner centered does not look any one particular way.
Not all learner-centered teachers believe or think in exactly the
same way or engage in the same practices. We have said repeatedly
that learner-centered teaching is as much a way of being, a disposi-
tion, as it is doing one thing or another.

At the same time, we have also asserted that there are some
important commonalities in beliefs, qualities and characteristics,
and practices of teachers whom we would call learner centered.
Basically they operate in accordance with the premises that emerge
from the learner-centered psychological principles. That is, they
acknowledge and attend to students’ uniqueness, by first getting to
know their students well; and by then using this information to
accommodate students’ unique qualities and needs; they know that
learning is a constructive process and thus they do whatever they can
to ensure that what is being taught is meaningful and relevant to
students and they provide opportunities for students to be actively
involved in the learning; they create a positive climate by caring for
and respecting their students as human beings with nonacademic
as well as academic needs and by providing an environment that is
safe, supportive, and comfortable; and they assume that all of their
students want to learn, and thus they come from that assumption in
their interactions.

These premises, as described in Chapter Two, emerge from the
learner-centered psychological principles, which reflect the research
on both learners and learning. While we acknowledge that many
teachers are learner centered somewhat naturally and intuitively, we
also believe that these teachers, as well as those who are not particu-
larly learner centered, can benefit from knowing and understand-
ing the principles and thus the research base these principles reflect.
For teachers in the former group, learning about the principles might
validate their experience, provide them with a rationale for what
they are doing, foster more purposefulness in doing what they are
doing, reinforce what they are doing well, and perhaps give them a
few ideas. For teachers in the latter group, we hope that learning
about the principles is an eye-opener, that it gives them a reason to
reassess what they are doing and motivates them to recreate their
relationship to their students and what they do in the classroom.

Deming (quoted in Glasser, 1990, p. 26) makes an interesting
point in creating a case for the importance of understanding theory:
"Knowledge is prediction, and knowledge comes from theory. Expe-
rience teaches nothing without theory. Do not try to copy someone
else's success. Unless you understand the theory behind it, trying to
copy it can lead to complete chaos."

While we might not agree entirely with this position, we do
believe that there is power in understanding the theory behind why
one thing works well and produces the result one is after and another
thing does not. Francis Bacon said, "Knowledge is power." We agree.
Therefore, we encourage teachers to become knowledgeable about
the learner-centered psychological principles that reflect the
research about learners and learning from which ways of being,
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imize motivation, learning, and achievement for all students.
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At the same time, we have also asserted that there are some important commonalities in beliefs, qualities and characteristics, and practices of teachers whom we would call learner centered. Basically they operate in accordance with the premises that emerge from the learner-centered psychological principles. That is, they acknowledge and attend to students’ uniqueness, by first getting to know their students well and by then using this information to accommodate students’ unique qualities and needs; they know that learning is a constructive process and thus they do whatever they can to ensure that what is being taught is meaningful and relevant to students and they provide opportunities for students to be actively involved in the learning; they create a positive climate by caring for and respecting their students as human beings with nonacademic as well as academic needs and by providing an environment that is safe, supportive, and comfortable; and they assume that all of their students want to learn, and thus they come from that assumption in their interactions.

These premises, as described in Chapter Two, emerge from the learner-centered psychological principles, which reflect the research on both learners and learning. While we acknowledge that many teachers are learner centered somewhat naturally and intuitively, we also believe that these teachers, as well as those who are not particularly learner centered, can benefit from knowing and understanding the principles and thus the research base these principles reflect. For teachers in the former group, learning about the principles might validate their experience, provide them with a rationale for what they are doing, foster more purposefulness in doing what they are doing, reinforce what they are doing well, and perhaps give them a few ideas. For teachers in the latter group, we hope that learning about the principles is an eye-opener, that it gives them a reason to reassess what they are doing and motivates them to recreate their relationship to their students and what they do in the classroom.

Deming (quoted in Glasser, 1990, p. 26) makes an interesting point in creating a case for the importance of understanding theory: “Knowledge is prediction, and knowledge comes from theory. Experience teaches nothing without theory. Do not try to copy someone else’s success. Unless you understand the theory behind it, trying to copy it can lead to complete chaos.”

While we might not agree entirely with this position, we do believe that there is power in understanding the theory behind why one thing works well and produces the result one is after and another thing does not. Francis Bacon said, “Knowledge is power.” We agree. Therefore, we encourage teachers to become knowledgeable about the learner-centered psychological principles that reflect the research about learners and learning from which ways of being, strategies, and practices may be identified that can be used to maximize motivation, learning, and achievement for all students.
educators in individual schools appear to have the technical expertise required to carry out the necessary reforms when the reforms focus primarily on new approaches to teaching and learning and are built on pragmatic experience. Finally, Murphy and Odden conclude that top-down change works for simpler reforms, especially those that implement well-proven programs followed by teacher involvement and sustained staff development.

Mohrman et al. (1994) have suggested that the literature on school change has evolved to a more holistic summary of how the change process should be viewed. These authors tell how John Goodlad and Theodore Sizer wrote about holistic school building. They define it as referring “to the need for a shared view of what students know and are able to do, and to how the many dimensions of schooling (including curriculum, instruction, assessment, and organizational structures) need to be integrated and directed toward reaching new student outcomes” (p. 223). Mohrman et al., however, also note that Goodlad and Sizer hinted at but rarely explained how this kind of holistic change should take place. (This book offers a well-designed process for producing this kind of holistic change.)

Several authors (Barth, 1990; Cuban, 1990; Fullan, 1993a; Fullan & Miles, 1992; Sarason, 1982, 1990, 1995; Schlechty, 1990), share their views of systemic change in school districts. Fullan (1993b) identifies eight lessons of change that apply to systemic improvement. First, he suggests that we can’t mandate changes that really matter—skills, creative thinking, and committed action (McLaughlin, 1989). Second, Fullan observes that change is not a blueprint, it’s a journey. It is unwieldy, cumbersome, and usually wrong to invent complex action plans to implement solutions for complex situations (which leads to the conclusion that overspecification in the planning process doesn’t work). Third, Fullan says that problems are the friends of those who seek to improve schools, that “we cannot develop effective responses to complex situations unless we actively seek and confront the real problems—which are in fact difficult to solve” (p. 126). Louis and Miles (1990) have learned that unsuccessful schools engaged in “shallow coping”—that is, they don’t engage in substantive problem solving—while successful schools practiced substantive problem solving to understand deeply the problems they encountered.

The fourth lesson of change proposed by Fullan is that vision and strategic planning come later in the school improvement process because merging personal and shared visions takes time. The fifth lesson is that individualism and collectivism must have equal power. There must be a balance or a creative tension between an individual’s need for a clear place for his or her position and the need for a strong common purpose.

Isolation and chaos; too much collaboration leads to “groupthink” (a phenomenon first described by Janis, 1982) and overcontrol.

Fullan’s sixth lesson of change is that neither centralization nor decentralization works. “Centralization errrs on the side of overcontrol, decentralization errrs toward chaos” (p. 128). The seventh lesson is that connection with the wider environment is critical for success. Fullan observes, “Many schools work hard at internal development but fail to keep a proactive learning stance toward the environment.” (p. 129). Fullan’s eighth and final lesson is that every person is a change agent. This lesson is important, because no single person can possibly understand the complexities of a school system; therefore, everyone should be engaged in the process of planning for and implementing improvements.

Mohrman et al. (1994) believe that systemic change processes are resource hungry—they demand time, money, technology, and personal energy. These resources must be available for the long haul, and they must be stable if the change effort is to succeed.

Systemic Thinking Precedes Systemic Improvement

We believe that those responsible for planning and implementing systemic change must be systems thinkers. Being a systems thinker means being able to “see the forest,” the overall relationship of the parts, to predict consequences of planned actions, and to anticipate unintended outcomes. Systemic school improvement requires a conceptual map of the school district as a system. Some people have trouble conceptualizing this kind of mental map. They can only see and understand individual pieces of the system; for example, they only see the curriculum or see student learning. Others know that the district is a system, but they can’t seem to juggle all the pieces in their minds and still hold onto the “big picture.” They get fleeting glimpses of the whole but can’t hold this map in their minds long enough to use it.

Deciding on System Boundaries

Others contemplating systemic change can’t decide on what the system boundaries are. Some people see the school system as connected to federal and state education systems, colleges and universities that prepare school personnel, state departments of education, and the community. Their mental model defines this megasystem as the unit of change for systemic school improvement. Although from a theoretical perspective this broad systemic view may be true, it is unhelpful because it makes the mental map of the system too complex and un navigable. Instead, those responsible for systemic school improvement must focus on the boundaries that make the least complex system manageable.
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The Four Phases of KWS

We summarize below the four phases of KWS using Figure 1.1 as a guide. Part II describes the specific KWS steps and activities.

1. Plan
   - Strategy formulation
   - Resource allocation
   - Establish objectives
   - Define key performance indicators

2. Design
   - Develop processes and tools
   - Implement automated systems
   - Conduct simulations and experiments

3. Implement
   - Train personnel
   - Monitor performance
   - Adjust systems as needed

4. Operate
   - Maintain systems
   - Continuously improve processes
   - Evaluate outcomes

These phases are iterative and may overlap. The goal is to achieve continuous improvement and sustained success.
ture, and environmental relationships. Simultaneous improvements in these three areas are made using a systematic four-phase process designed to transform entire school districts into high-performing communities of learners.

Prelaunch Preparation and Input from the Environment

In the upper left-hand corner of Figure 1-1, there is a large arrow pointing to Phase 1. This arrow represents the work that needs to be done prior to launching KWS. During the prelaunch stage, the superintendent of schools explores the district's readiness to change. He or she assesses the threats and opportunities presented by the possibility of engaging in systemic redesign. Efforts are taken early to build initial political support for change. If the system is ready to change and if there is sufficient political support, the superintendent launches KWS by initiating Phase 1 activities.

A very important element of prelaunch work is building political support within the district's school board. As a policy-making and decision-making body, the school board must give very strong support to the superintendent to launch and sustain KWS. Its support is absolutely critical, and the superintendent cannot proceed without it.

Phase 1: Building Support for Innovation

During Phase 1 (see Chapter 5 for more details), top leaders continue preparing to redesign the school system and developing political support for innovation. They form and train a Strategic Leadership Team (SLT) composed of influential administrators and teachers from each of the three levels of schooling in the system (elementary, middle, and secondary). The SLT provides strategic leadership for school improvement.

A Knowledge Work Coordinator is appointed or hired and trained to provide tactical leadership for school improvement. He or she is also a member of the SLT.

A cluster of K–12 schools is identified to begin the redesign process. A multilevel team of educators from within the cluster is chartered and trained as a Cluster Improvement Team to coordinate school improvement.

Site Improvement Teams and Communities of Practice within the clusters are also chartered to create innovative ideas to redesign their individual schools and their communities of practice. These teams and communities receive training on systemic school improvement in the early stages of Phase 2.

During Phase 1, the school system's stakeholders engage in a special large-group process called Open Space Technology (Owen 1991, 1994) to search for and select the four critical components of the four-phase process outlined in Figure 1-1. The four critical components are:

1. The Past Before Us Is Not the Future

Search Conference for selected members of the school system is also conducted near the end of this phase. This conference results in a well-defined strategic direction for the school system and a set of broad guiding principles for redesigning the school system.

Effective Phase 1 work is very important. Kotter's (1995) research supported this conclusion. He identified eight errors made during organizational improvement that resulted in failure. Six of these errors can occur during Phase 1 of KWS. They are as follows:

- Not establishing a great enough sense of urgency
- Not creating a powerful enough guiding coalition
- Lacking a vision
- Undercommunicating the vision by a factor of 10
- Not removing obstacles to the new vision
- Not systematically planning for and creating short-term wins (pp. 59–65)

A failed school improvement effort will harden people's resolve to resist future efforts to improve the system.

The superintendent of schools must provide leadership early in Phase 1. His or her leadership is critical to the success of this kind of systemic improvement effort. It is not sufficient for superintendents to write or talk about their support. They must demonstrate behaviorally their commitment to the KWS process, which means participating in and leading activities during Phase 1 (and throughout the KWS process).

Phase 2: Redesigning for High Performance

Seeking quick-fix solutions is seductive, but KWS is not about quick fixes. It is about transforming entire school systems into high-performing organizations of learners. This transformation requires an extraordinary level of shared leadership. One goal of this phase is to create simultaneous top-down, bottom-up redesign initiatives. Phase 2 (see chapter 6 for more details) is where shared leadership is most critical. All the steps in this phase are designed to ensure high involvement of faculty and staff by reinforcing the shift toward participative organizational design.

The redesign phase focuses on creating simultaneous improvements in the first K–12 cluster's core knowledge work processes (teaching and learning), social architecture, (the cluster's culture, communication structures, etc.) and environmental relationships (the cluster's relationship with its neighborhood, the broader community, and the other clusters in the district). The three arrows on the right side of Figure 1-1 represent these simultaneous improvements.
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During Phase 1, the school system’s stakeholders engage in a special large-group process called Open Space Technology (Owen 1991, 2001). The value of this process is that it is designed to be a catalyst for systemic change. During the first Open Space meeting, leaders and stakeholders generated 40 ideas for improving the school system. These ideas were then translated into strategic guidelines for Phase 2.

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Phase 3: Achieving Stability and Diffusion

The Knowledge Work Coordinator and Cluster Improvement Team from the first K–12 cluster stabilize the rate of change within the cluster so their people have a chance to learn new skills and behaviors. Desirable skills and behaviors are rewarded to stimulate stabilization. Success is celebrated, and failures are turned into learning opportunities. Phase 2 steps are repeated for all remaining K–12 clusters until the entire school system is redesigned in accordance with the general redesign guidelines set in the systemwide Search Conference held at the end of Phase 1. (See chapter 7 for more details on Phase 3.)

Phase 4: Sustaining School Improvement

The Knowledge Work Coordinator develops effective methods for managing the invisible but real boundaries between individual schools, between clusters, between levels of schooling, and between the school system and its environment. In this capacity, the Knowledge Work Coordinator role is a boundary-spanning role (Daft, 1997).

All key players practice principles of transformational leadership. Cutting-edge principles for improving the performance of individuals and teams are applied. Cluster Improvement Teams, Site Improvement Teams, and Communities of Practice also apply principles of continuous improvement for a predetermined period. (See chapter 8 for more details on Phase 4.)

At the end of this predetermined period, the entire KWS process recycles to Phase 1 and starts again. KWS is a never-ending process of continuous school improvement. Achieving high performance is an evolutionary process.

In the lower left-hand corner of Figure 1-1 there is a large arrow that says “feedback to environment.” The results of all the redesign activities must be reported back to the stakeholders in the community. Reporting strengthens and maintains political support.

The Five Key Players of KWS

The five key players for KWS are also shown in Figure 1-1. These are briefly described below.

Strategic Leadership Team

The SLT provides strategic leadership for school district improvement. It is composed of the superintendent of schools, a few of his or her trusted assistants, and respected teachers and building-level administrators who are appointed to the team by their colleagues (not by the superintendent) from each level of schooling (elementary, middle, and high). The SLT is responsible for setting the agenda for school improvement initiatives and for coordinating these initiatives with communities of practice and site teams in the district.

Knowledge Work Coordinator

This is a new role proposed to serve as an “integrator” (Daft, 1997). He or she is a teacher, supervisor, or administrator retained to provide professional leadership for systemic school improvement. Similar roles are already in place in school districts in the United States; for example, in the Frederick County Public Schools (Maryland), the role is called Executive Director for Community Relations. This person coordinates school improvement in the eight K–12 clusters in that district and establishes and maintains relationships with the community.

Cluster Improvement Teams

KWS uses a K–12 cluster of schools as the unit of change instead of individual school buildings. A K–12 cluster is a set of interconnected schools often configured as a single high school and all the middle and elementary schools feeding into it. Some school districts don’t have feeder systems. These districts can create K–12 clusters by linking those schools that tend to share students.

Site Improvement Teams

School-based improvement is important but insufficient by itself for improving an entire school district. Because of the importance of school-based improvement, Site Improvement Teams (SITs) are part of KWS. The SITs create innovative ideas for redesigning what happens inside their buildings while taking into account that their buildings are part of a K–12 instructional program. The SITs cannot redesign their schools with total disregard for how they are connected to other schools in their cluster.

Communities of Practice

Communities of Practice can be formal, permanent work teams. They can also be informal groups of like-minded practitioners who come together to explore an issue or a topic, disband when their study is done, and re-form with different members to explore different topics. Or they can be a single teacher and his or her students. These “circles of learning” are expected to disseminate what they learn to others in the school system. In this way, they play a critical role in creating district-wide professional knowledge.

The Role of the Central Office

A school district’s central administration office can be a stumbling block in creating and sustaining systemic school improvement. The organization's staff is often responsible for numerous initiatives, and weeding through the paperwork while making tough decisions can be overwhelming. The central office staff needs to be part of the solution to these complex problems in schools and adjust their managing attitudes. It is important to redefine the job of the central office and to provide leadership. High-quality instruction and professional development for school leaders are key elements in the improvement process.
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The central office should be redesigned as a Central Service Center to support effective systemic school improvement. In this capacity, the staff of the Central Service Center views teachers and building-level administrators as their "internal customers."

**Underpinnings of the KWS Approach**

The central "puzzle-piece" in Figure 1-1 is labeled "High-Quality K-12 Classroom Teaching and Learning." There are one-directional arrows pointing out of each phase toward that central piece. These directional arrows reinforce the point that everything done in the name of systemic improvement is done to provide students with a high-quality education.

Many years of experience and research (see Bunker & Alban, 1997) on large-scale organizational improvement have taught us six valuable lessons that underpin the KWS approach:

- Three things must be changed simultaneously: the core work process, the social architecture, and the environmental relationships.
- It is insufficient to make these three changes in only a few individual units, departments, or teams within an organization. The whole organization must be changed.
- Making these three kinds of simultaneous changes requires the use of high-involvement methods that engage all members of the organization and selected stakeholders from outside the organization in discussions about the future of the organization.
- All changes and all internal operations must be aligned with the overall strategic direction of the organization.
- Systemic change is a never-ending journey toward higher and higher levels of performance.
- This kind of systemic change can be done, and it can be done quickly.

There are 11 basic propositions that underpin KWS.

**Proposition 1.** The basic unit of change within a school system is a K-12 cluster rather than individual schools. Site-based school improvement is a necessary part of systemic school improvement, but it is insufficient by itself for producing systemic improvement. Systemic school improvement focuses on making changes within each K-12 cluster that are aligned with and supportive of the strategic direction of the entire school system. This principle is reinforced in the literature on organizational improvement.

**Proposition 2.** Effective school improvement requires the use of the principles of systemic change. When principles of large-scale improvement are applied, these efforts will produce systemwide excellence rather than pockets of school-based or department-specific excellence.

**Proposition 3.** When redesigning K-12 clusters, the ideal design is not preordained by what worked in other districts. The ideal design is defined by three broad characteristics: (a) what it will take for each cluster to deliver an excellent and equitable education to all students (by making improvements to their knowledge work process); (b) the conditions under which the learning needs of teachers, administrators, and other staff are to be met (by making improvements to the system's social architecture); and (c) those conditions under which the cluster is able to meet the changing demands of its larger turbulent environment, which includes the broader school system, organizational culture, technology, finances, and the neighborhood(s) served by the cluster (by improving environmental relationships).

**Proposition 4.** The transformation of the social architecture of a school system from a bureaucratic design to a participative design is critical to the success of a knowledge-creating organization staffed with knowledge workers. This transformation requires the chartering and ongoing support of work teams. Furthermore, these teams must be empowered with real authority and responsibility for redesigning their knowledge work processes, the social architecture of their work units, and their relationship with the broader environment.

**Proposition 5.** KWS improvements must be clearly aligned with the school system's strategic direction and coordinated to ensure ongoing alignment.

**Proposition 6.** The new organizational design created through KWS should facilitate practitioners' timely access to high-quality information and knowledge, allow them to influence decisions, and give them the opportunity to take appropriate actions so they can learn together to create shared knowledge about teaching and learning.

**Proposition 7.** The K-12 clusters within a school system, the individual schools within each cluster, and the many Communities of Practice within and among clusters should be clearly linked and coordinated to support the strategic direction of the school system. Otherwise the system will be a confederation of loosely connected parts rather than an interdependent system working toward common goals.

**Proposition 8.** Systems and individuals have low tolerance for multiple, yearly, rapid-fire changes. KWS improvements should be stabilized and allowed to stay in place for a predetermined period as long as they continue to produce desired outcomes.

**Proposition 9.** Even though systemic stability is reestablished after making KWS improvements, none of the improvements should be considered permanent. The principles of large-scale improvement should be applied on a continuous basis.
The central office should be redesigned as a Central Service Center to support effective systemic school improvement. In this capacity, the staff of the Central Service Center views teachers and building-level administrators as their "internal customers."

**Underpinnings of the KWS Approach**

The central "puzzle piece" in Figure 1-1 is labeled "High-Quality K-12 Classroom Teaching and Learning." There are one-directional arrows pointing out of each phase toward that central piece. These directional arrows reinforce the point that everything done in the name of systemic improvement is done to provide students with a high-quality education.

Many years of experience and research (see Bunker & Alban, 1997) on large-scale organizational improvement have taught us six valuable lessons that underpin the KWS approach:

- **Three things must be changed simultaneously:** the core work process, the social architecture, and the environmental relationships.
- **It is insufficient to make these three changes in only a few individual units, departments, or teams within an organization.** The whole organization must be changed.
- **Making these three kinds of simultaneous changes requires the use of high-involvement methods that engage all members of the organization and selected stakeholders from outside the organization in discussions about the future of the organization.**
- **All changes and all internal operations must be aligned with the overall strategic direction of the organization.**
- **Systemic change is a never-ending journey toward higher and higher levels of performance.**
- **This kind of systemic change can be done, and it can be done quickly.**

There are 11 basic propositions that underpin KWS.

**Proposition 1.** The basic unit of change within a school system is a K-12 cluster rather than individual schools. Site-based school improvement is a necessary part of systemic school improvement, but it is insufficient by itself for producing systemic improvement. Systemic school improvement focuses on making changes within each K-12 cluster that are aligned with and supportive of the strategic direction of the entire school system. This principle is reinforced in the literature on organizational improvement.

**Proposition 2.** Effective school improvement requires the use of the principles of systemic change. When principles of large-scale improvement efforts will produce systemwide excellence rather than pockets of school-based or department-specific excellence.

**Proposition 3.** When redesigning K-12 clusters, the ideal design is not predetermined by what worked in other districts. The ideal design is defined by three broad characteristics: (a) what it will take for each cluster to deliver an excellent and equitable education to all students by making improvements to their knowledge work processes; (b) the conditions under which the learning needs of teachers, administrators, and other staff are to be met (by making improvements to the system's social architecture); and (c) those conditions under which the cluster is able to meet the changing demands of its larger turbulent environment, which includes the broader school system, organizational culture, technology, finances, and the neighborhood(s) served by the cluster (by improving environmental relationships).

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**Proposition 8.** Systems and individuals have low tolerance for multiple, yearly, rapid-fire changes. KWS improvements should be stabilized and allowed to stay in place for a predetermined period as long as the continue to produce desired outcomes.

**Proposition 9.** Even though systemic stability is reestablished after making KWS improvements, none of the improvements should be assumed to be permanent. KWS efforts must continue to support systemic improvement and systemic changes must be made as needed.
viewed as permanent. The school system must seize opportunities in and deal with threats from its environment. This requires school systems to maintain their capacity for future change.

**Proposition 10.** Practitioners must have a clear understanding of how to align their individual behavior with the school system's strategic direction. Within the context of KWS, individuals, teams, schools, and Communities of Practice are held accountable for behavioral alignment and are rewarded accordingly.

**Proposition 11.** A “healthy” school system is one that benefits the people within it and has a positive future.

The Knowledge Base for KWS

KWS was born of several interrelated areas: socio-technical systems design (e.g., Emery & Trist, 1972; Pasmore, 1988, 1992; Pasmore, Francis, Shani, & Haldeman, 1982; Trist, 1969; Trist, Higgin, Murray, & Pollack, 1963), quality improvement (e.g., Crosby, 1979; Deming, 1982; Ishikawa, 1985; Juran, 1989; Taguchi & Clausing, 1990) organizational development (e.g., Argyris & Schön, 1978; Burke, 1982; French & Bell, 1978; Senge, 1990a, 1990b), and knowledge work (e.g., Drucker, 1993; Knights, Murray, & Willmott, 1993; Pava, 1983a, 1983b, 1986). Key KWS concepts and methods are summarized below.

**Core Concepts**

**Socio-Technical Systems Design.** This field has contributed the most to the core of KWS. The key concept borrowed from STS design is that organizations are complete systems with components that interact with each other. A system also exists within a broader environment and has an exchange with that environment. The system functions by converting inputs into outputs. Inputs are human, financial, and technical resources used to do work (using a conversion process) inside the organization that results in products or services (outputs) being delivered to a customer. Feedback (i.e., an evaluation of the quality and timeliness of a product or service) is provided to managers and employees working in the organization so they can improve what they are doing.

**Team-Based Organizational Design.** Setting priorities and providing resources is not enough to transform entire school systems into high-performing communities of learners. Senior- and school-level managers must actively support and encourage the transformation of their school systems from traditional hierarchical organizational designs into team-based designs. Substantial research also exists on the effectiveness of self-managed teams (Goodman, Devadas, & Hughson, 1988). Pava (1983a) says this kind of transformation has four elements:
is important because of the “upstream errors flow downstream” principle. You recall that this principle suggests that mistakes made early in a work process, if not caught, will create larger problems downstream. A cluster organized as a feeder system represents your entire core work process. Educators in those clusters will then be able to examine their entire “work stream” to identify and correct errors.

Even though the unit of change for creating and sustaining systemic school improvement is a cluster of interconnected schools, these clusters will produce whole-district improvement. Thus, the ultimate unit of change in the Step-Up-To-Excellence framework is the whole district.

**Charter and Train Cluster Improvement Teams**

Once you identify the clusters in your district, then the SLT and the Knowledge Work Coordinator invite each cluster to establish a special team that will lead improvement within each cluster. I call this team a Cluster Improvement Team (CIT).

The Strategic Leadership Team gives each CIT a formal charter. A charter is a set of “marching orders” that define performance goals, major tasks, and expected outcomes. Each CIT also receives training on principles of systemic improvement, collaboration, and creative thinking.

**Conduct Cluster Engagement Conferences**

At the beginning of step 1, you conducted a Distrixt Engagement Conference that resulted in a new vision for the future of your district, a set of redesign criteria, and a strategic direction for the district to move along. Now, that information is fed forward to each of the clusters and used by each Cluster Improvement Team and the faculty and staff in those clusters.

Cluster Engagement Conferences are designed and conducted in exactly the same way as the earlier District Engagement Conference. The focus of the Cluster Engagement Conferences, however, is on how each cluster can be redesigned to clearly support the district’s grand vision, redesign criteria, and strategic direction. The primary outcome of this special three-day event is a vision statement for each cluster that is unambiguously aligned with the district’s vision, redesign criteria, and strategic direction. It is okay if each cluster creates a different vision, as long as it clearly supports the district’s grand vision and strategic direction and complies with the district’s redesign criteria. A secondary outcome is the continuing development of a climate of trust, commitment, and collaboration.

**Charter and Train Site Improvement Teams**

Many school districts already have school improvement teams in place. A Site Improvement Team (SIT) is similar in structure and function to a school improvement team. The difference is that in the Step-Up-To-Excellence methodology, these teams are not chartered and trained until after each cluster conducts its Cluster Engagement Conference.

The Cluster Engagement Conference results in a vision statement for each cluster. This vision must support the district’s vision and strategic direction and it must fit within the parameters defined by the district’s redesign criteria. Each Cluster Improvement Team then charters and trains a Site Improvement Team for each school in its cluster. Each SIT receives training on principles of systemic redesign, communication skills, and creative thinking.

**Conduct Redesign Workshops**

Up to this point in step 1, you have created a framework for navigating whole-system improvement. This framework provides the foundation for creating innovative ideas to improve your entire school system. Now, people begin collaborating to invent creative ideas to improve your district’s (1) core and supportive work processes, (2) internal social “architecture,” and (3) relationship to its external environment.

The change navigation framework you created also increases the fluidity of your district’s hierarchy and introduces entropy (this was discussed earlier in chapter 4). To increase the entropy and fluidity, you now engage your faculty and staff in what I call Redesign Workshops.

Redesign Workshops are designed using the principles of Participative Design articulated by Emery (Emery & Purser, 1996; Emery,
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Redesign Workshops are designed using the principles of Participative Design articulated by Emery (Emery & Purser, 1996; Emery,
1993). These are also special three-day events that engage faculty and staff in a structured process of creative thinking to identify improvements in their clusters’ core and supportive work processes, internal social architecture, and the clusters’ relationships with their external environments (which include relationships with other clusters, with the central administration, and with their neighborhood communities).

Each Cluster Improvement Team organizes and conducts a Redesign Workshop for its respective cluster. The CTT invites teachers and building administrators from each Site Improvement Team in its cluster to participate in the workshop. Each SIT nominates a teacher and a building administrator from its team to attend the cluster’s Redesign Workshop.

At the same time that the CTTs are conducting their Redesign Workshops, the superintendent of schools is conducting a special Redesign Workshop for the central administration office staff. The purpose of this workshop is to invent ideas to transform the central administration office into a Central Service Center. One of the outcomes of this special Redesign Workshop is a vision statement for the new Central Service Center that views educators in the clusters and schools as customers to be served.

The district’s grand vision, redesign criteria, and strategic direction and each cluster’s vision statement put a mental “fence” around the Redesign Workshops. This fence creates a boundary within which people can exercise their creativity. In essence, what the fence communicates is that the innovative ideas for improvement that come out of the Redesign Workshops must be unambiguously aligned first with each cluster’s vision and then, ultimately, with the district’s grand vision and strategic direction. Innovation is encouraged, but it must have a fence around it.

**Develop a Redesign Proposal**

Each Redesign Workshop lasts three days. Over that period, participants create innovative ideas to redesign their clusters’ work processes, internal social architecture, and environmental relationships. The central administration staff do the same thing for their office.

The major outcome of all the Redesign Workshops is a collection of wonderfully creative ideas for improving each cluster’s core and sup-

portive work processes, internal social architecture, and environmental relationships, and thereby, improving schooling throughout your entire district. Each Cluster Improvement Team collects the ideas from their Redesign Workshops. The superintendent does the same thing for the ideas that come out of the special workshop for the central administration office staff. The Knowledge Work Coordinator organizes all of the ideas into a single redesign proposal. The redesign proposal is then submitted to the Strategic Leadership Team for review and approval.

The SLT’s review and approval process focuses on making sure that the redesign ideas are (1) aligned with the district’s grand vision, redesign criteria, and strategic direction; (2) aligned with any extant state and federal rules and regulations; (3) truly innovative; and (4) fundable.

The SLT may find ideas that do not meet the preceding criteria. If they do find some, they meet with the respective Cluster Improvement Team and Site Improvement Teams to discuss why they think the ideas do not meet the criteria. Unilateral decisions to discard ideas are unacceptable within the context of Step-Up-To-Excellence. In some cases, together, all the involved parties may decide to discard an idea. Or, they may change their minds and re-include it in a redesign proposal.

### Find and Distribute Human, Financial, Technical, and Time Resources

After the District Engagement Conference conducted earlier, which resulted in a grand vision for the district, a set of redesign criteria, and a strategic direction, the Strategic Leadership Team starts estimating the kinds and amounts of resources it might need to move its district along the strategic direction toward the district’s vision (some ideas about doing this are found in chapter 7). By the time the district’s redesign proposal is put in the SLT’s hands, team members should have a rough estimate of the resources they will need.

Given the specific redesign proposal and the approved redesign ideas, the SLT now begins the process of finding and allocating the needed resources (see chapter 7 for more advice about this process). A large chunk of the resources will be found by reallocating existing resources and dedicating these to implementing the new, desirable ideas. Another source of funds will need to be “external” monies from the state and federal governments and private foundations. This external
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money, although needed to jump-start a redesign process, should not be relied upon to sustain systemic improvement. Ultimately, the SLT creates a permanent line item in their district’s operating budget to sustain whole-system change and makes the redesign process a part of the core operations of the district.

Once the resources are found and collected, then the SLT distributes the resources to each Cluster Improvement Team, which in turn continues disbursing the resources to the Site Improvement Teams. At this point, the various teams begin implementing their redesign proposals.

Implement the Redesign Proposal

It’s one thing to have good intentions and wonderful ideas. It’s quite another thing to turn those into reality. Good intentions (as in, “our hearts were in the right place” or “we meant well”) are meaningless. If you hold a piece of paper with all your good intentions on it in one hand and a brick in the other, you know what you have—a brick and a piece of paper. You have to do something to turn your ideas and intentions into reality. Doing something requires implementation activities. Everyone has to produce results!

Implementation activities should be planned logically so that the changes you desire roll out in a natural, logical, and flowing sequence. A well-crafted implementation plan is needed. The Strategic Leadership Team, Cluster Improvement Teams, Site Improvement Teams, and the Knowledge Work Coordinator all have important roles to play during implementation.

For implementation purposes, each improvement team should be empowered to seize opportunities at the intersection of anticipatory planning and unexpected events (discussed in chapter 4) as long as these opportunities are in compliance with the district’s grand vision, redesign criteria, and strategic direction.

Encourage Formation of Organizational Learning Networks

When you implement your redesign proposals, individual, team, school, cluster, and district performance levels will temporarily decline as everyone moves toward the edge of chaos (see chapter 4). Move-

ment down the performance curve is unavoidable and necessary. At some point, that downward slide will bottom out and everyone will start to move back up the performance curve toward your district’s grand vision.

Another tool that is part of the Step-Up-To-Excellence methodology, called Organizational Learning Networks, can be used to facilitate movement of individual and team learning down and up the performance curve. These are small “communities of practice” or study groups for people who share a common interest or common practice. These networks form, explore a topic, learn a new skill together, disband, and re-form with new members to explore different interests. Although these networks are not “ordered” to form, when they do form, they are expected to share their learning with others in their schools and clusters. These networks are absolutely essential for helping your school district create and diffuse organization-wide professional knowledge and skills.

Conduct On-Track Seminars

Another important tool that is part of the Step-Up-To-Excellence approach is the On-Track Seminar. There is an old saying that goes something like this, “There’s a lot of slip between the cup and the lip.” In other words, even the best implementation plan cannot guarantee perfection—there will be “slip.” No matter how well you plan, there will be unexpected consequences, surprising new problems, and stunning unanticipated opportunities.

On-Track Seminars are specially designed discussion groups built on the principles of “evaluative inquiry” (Preskill & Torres, 1999). The purpose of these sessions, which are conducted for the various redesign teams and the Knowledge Work Coordinator, is to conduct what the literature calls “implementation feedback.” The results of these periodic seminars are used to make needed course corrections for the redesign effort or to seize unexpected opportunities for improvement that might pop up during the implementation period.

Let’s digress for a few minutes to take a look at Preskill and Torres’s (1999) model for evaluative inquiry in learning organizations. I’m excited about this model because it complements the Step-Up-To-Excellence
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methodology and dovetails nicely with a summative evaluation methodology that is described later under step 5—Stufflebeam’s (2000) Context, Inputs, Processes, and Products (CIPP) model.

**Evaluative Inquiry in Learning Organizations**

School districts are learning organizations. Preskill and Torres (1999) developed their evaluative inquiry model for learning organizations. Their model also reinforces a lot of what I’ve been talking about so far regarding Step-Up-To-Excellence; for example, they say:

Continuous organizational change is resulting in less organizational stability and a redefinition of who we are and what we do in the workplace. The traditional structures that have given us a feeling of solidarity and predictability have vanished. This shift has placed a greater emphasis on the need for fluid processes that can change as an organization and its members’ needs change. Instead of the traditional rational, linear, hierarchical approach to managing jobs, which focused on breaking down job tasks and isolating job functions, tomorrow’s jobs will be built on establishing networks of relationships. (p. xvii)

According to Preskill and Torres, their evaluative inquiry model not only helps you gather information for decision making and action, but it also helps you question and debate the value of what you do in your district. The principles of evaluative inquiry undergird the On-Track Seminars that are used to provide you and your colleagues with implementation feedback.

**Evaluative Inquiry Has Three Phases and Incorporates Four Key Learning Processes**

Evaluative inquiry moves you through three phases: phase 1—focusing the evaluative inquiry, phase 2—carrying out the inquiry, and phase 3—applying learning. During each of the phases, people come together to engage in a learning process that incorporates four key learning processes: dialogue, reflection, asking questions, and identifying and clarifying values, beliefs, assumptions, and knowledge.

Preskill and Torres’s evaluative inquiry model is 100 percent compatible with Step-Up-To-Excellence. It is also compatible with Stufflebeam’s CIPP model for summative evaluation that is described later under step 5. This level of compatibility offers a great deal of benefit to your efforts to redesign your district. The linkage of the evaluative inquiry model to the CIPP model provides one powerful evaluation model to assess your district’s overall performance. It not only produces evaluation data, but also produces individual, team, and system learning. Now, that’s commanding!

**How Long Will Step 1 Take?**

The amount of time needed to complete all of the redesign activities up to implementation will be relatively short; for example, the various engagement conferences are only three days each. The amount of time needed to implement your redesign proposals, however, will vary depending on the size of your district, the complexity of the redesign ideas, the political environment in your community, and your district’s relationship with its teachers union. On average, according to the literature on whole-system improvement, implementation periods may take eighteen to thirty-six months (Pasmor, 1988), with some as long as four years (Odden, 1998), and still others extending to five to seven years (Kotter, 1995).

**STEPS 2 TO 4: CREATE STRATEGIC ALIGNMENT**

During and following the implementation period, you and your colleagues will need to focus sharply on creating strategic alignment. Alignment activities are conducted during steps 2 through 4 of the Step-Up-To-Excellence framework.

Strategic alignment is a systematic way of linking people, priorities, practices, and processes with your districts’ strategic goals and grand vision. More than anything else, strategic alignment is a structured, planned way of ensuring that everyone in your district is committed to making a contribution and adding value to the services you provide to children.
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Schwan and Spady (1998, n.p.) talk about the importance of strategic alignment in their comments about why strategic change fails in school districts. They say:

What’s missing in most cases is a concrete, detailed vision statement that describes what the organization will look like when operating at its ideal best to accomplish its declared purpose, as well as a systematic process we call strategic alignment. Strategic alignment occurs when the structure, policies, procedures, and practices of the organization totally support the organization’s vision.

They continue by observing:

The alignment of the organizational vision with the actions of those who are part of the organization is a critical step in creating real and lasting change. Such alignment is best fostered and assured through the supervision process. Every supervisor in the district—from the superintendent to the teacher—is a linking pin. Every individual links one part of the organization to another. If the vision is lost by any pin, implementation of the vision becomes an option for anyone supervised by that pin, and in turn for anyone who reports to that pin’s supervisees.

Getting All the Horses to Pull the Wagon in the Same Direction

Creating strategic alignment is like getting a team of horses to pull a wagon in the same direction. You can’t have each horse trying to pull the wagon in a different direction. In much the same way, change-leaders in school districts cannot have teams, schools, clusters, and individuals all doing their “own thing” with total disregard for their district’s strategic goals and grand vision. This is not exactly an effective way to manage a district.

Step 1: Get the Horses out of the Barn

Before you hitch all the horses to a wagon, you have to bring them out of the barn. In the same way, before educators can step up to excellence they have to redesign their district to move toward higher levels of performance. Once a school district is redesigned as described earlier, then educators align the work of individuals with the goals of their teams, the work of teams with the goals of their schools, the work of schools with the goals of their clusters, and the work of clusters with the goals of the district. The alignment process starts at the level of the district and then works inward to the level of teams and individuals. Let me tell you a little bit about each of the steps in the alignment process.

Step 2: Align the Performance of Clusters

Remember, you not only want to align each cluster’s work with the grand vision and strategic direction of your district, you also want to make sure that each cluster’s newly designed internal social architecture is motivating and satisfying; that each cluster’s core work processes (teaching and learning) and supportive work processes (administration, supervision, secretarial, pupil personnel services, cafeteria, busing, and so on) are working as desired; and that each cluster has positive relationships with its external environment. You also want to make sure that policies, procedures, rules, and so forth that may interfere with individual and team performance are removed or changed.

Step 3: Align Performance of Individual Schools

Step-Up-To-Excellence recognizes that school-based management is a necessary element of systemic school improvement; however, by itself, it is insufficient to produce systemic improvement. Instead, the focus of school improvement needs to be “scaled-up” to improve entire school systems. Rhodes (1997) also supports this view when he says, “The scope and nature of the local school system makes it the optimal unit in which can be embedded the needed infrastructures to sustain that process. The process of systemic change cannot end there, but it is the only realistic place that it can start” (p. 33).

Just as each ship in a naval fleet sailing out of port goes under its own power with its captain and its crew, each school in a cluster must
Schwan and Spady (1998, n.p.) talk about the importance of strategic alignment in their comments about why strategic change fails in school districts. They say:

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Just as each ship in a naval fleet sailing out of port goes under its own power with its captain and its crew, each school in a cluster must
do the daily work of schooling. This work is not possible in any other way. It is in the classrooms in these schools that teachers help children learn. But each school should not "sail" alone with total disregard for the goals of its cluster, the work of its sister schools, or for the strategic vision of the entire district. The teaching and learning inside each classroom of each school must be linked clearly and powerfully to the goals of the clusters, and with the district’s vision and strategic direction. The fleet must sail together as one.

**Step 4: Align Performance of Teams and Individuals**

By completing steps 2 and 3, you are applying the “outside-in-thinking” technique. This ensures that the conditions for effective team and individual performance are in place and functioning well. Now, you take a look at how teams and individuals are performing in your newly redesigned school district. Please remember that I am not just talking about teachers here—“teams and individuals” include education specialists, administrators, supervisors, cafeteria workers, bus drivers, janitors—all everyone in the district.

The logic behind alignment activities (i.e., the reason for moving sequentially from step 2 through step 4) is that if you want your district to achieve higher levels of performance, then you must ensure that conditions to support effective performance are in place and functioning at each level. And if you want to sustain systemic improvement, you want to make sure these conditions stay in place. If the conditions for success are not in place at the district and cluster levels, it is unreasonable to expect improvement in individual and team performance. Further, roadblocks and obstacles to success (e.g., obstructionist policies, faulty procedures, and so on) must also be removed starting at the level of the district and moving inward toward the performance of individuals. Removing obstacles in this manner is called “outside-in” change management (Beckhard, 1983). Here’s how it works within the Step-Up-To-Excellence framework:

1. Change-leaders first ensure that the district-level vision and strategic direction are in place as expected.

2. Then, they examine district-level policies, procedures, expectations, and the like to ensure that these things will help people succeed in improving their clusters, schools, and teams.
3. Then, they ensure that each cluster has its conditions for success in place and functioning and that these conditions are aligned with the district’s vision and strategic goals.
4. Then, they look at individual schools to determine if they have their required conditions for success in place and whether their performance is aligned with the goals of their clusters.
5. Then, they look at the various teams to make sure that they have their required conditions for success in place and functioning and to see whether their performance is aligned with the goals of their schools.
6. At each point—moving from the outside in, necessary corrective actions are taken to ensure that the desired conditions for success are in place and functioning as expected.
7. Then, and only then, the performance of individuals is evaluated and aligned.

The reason for this outside-in alignment sequence is that by doing it this way, you create a work environment within which the performance of teams and individuals is supported by the conditions and resources they need to succeed. Then, if teams and individuals are not performing as expected, they have no excuse for less-than-expected performance levels and they can be held accountable for not performing as expected.

Creating strategic alignment, as described here, accomplishes three things: first, it ensures that everyone is working toward the same district-level broad strategic goals and grand vision. Second, it weaves a web of accountabilities that makes everyone who touches the educational experience of a child accountable for his or her part in shaping that experience. And, third, it removes (by using the outside-in tactic) bureaucratic hassles, dysfunctional policies, and obstructionist procedures that limit individual and team effectiveness. Deming (1986), among others, says that it is these hassles, policies, and procedures that cause at least 80 percent of the performance problems that are usually blamed on individuals and teams.
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Using Implementation Feedback to Create and Sustain Strategic Alignment

Implementation feedback is where you take a good look at how the improvements you are making in clusters, schools, and teams are being implemented. Feedback is also collected about the effectiveness of new policies, procedures, and working relationships. Then, everyone is expected to take the necessary actions either to reinforce what they’re doing right or to correct what they’re doing wrong. Individuals and teams are then held accountable for taking these actions and producing results (remember, good intentions are not good enough—people have to produce results).

Within the Step-Up-To-Excellence framework, implementation feedback is provided in the On-Track Seminars that are conducted periodically. These seminars produce results that are used to keep your redesign effort on track and to help create strategic alignment.

Cummings and Worley (2001) discuss the importance of implementation feedback for organization development purposes. They say:

Most OD [organization development] interventions require significant changes in people’s behaviors and ways of thinking about organizations. . . . Implementing such changes requires considerable learning and experimentation as employees and managers discover how to translate these general prescriptions [the required changes] into specific behaviors and procedures. This learning process involves much trial and error and needs to be guided by information about whether behaviors and procedures are being changed as intended. (p. 175)

Since Step-Up-To-Excellence is an organization development intervention, and since creating strategic alignment is an important goal for this intervention, implementation feedback becomes a primary tool.

Another important reason for using implementation feedback is related to one of the core principles of sociotechnical systems design; that is, minimal specificity. This principle advises change-leaders to define minimally the specifics of desired improvements. In applying this principle, then, individuals and teams have the freedom and authority to add specificity as needed. This freedom to add specificity, however, creates a problem for a school district because as specificity is added, unintentional and intentional deviations from what was expected occur. Thus, to achieve strategic alignment, change-leaders have to bring everything back into alignment. Implementation feedback helps do this.

Weave and Strum a Web of Accountabilities

Another very important outcome of Step-Up-To-Excellence is that when you redesign your district’s internal social architecture in accordance with the principles discussed so far, what you are creating is a “web of accountabilities” (Merrifield, 1998). It’s ineffective and unfair to hold classroom teachers solely responsible for student success. Instead, you need to adopt the mental model of a web of accountabilities. You weave this web by tying together the various redesign teams that you created with the Organizational Learning Networks that are used to promote organizational learning. The link pin that holds this web together is the Knowledge Work Coordinator. This networked “web” focuses on helping your district achieve its grand vision and strategic direction.

The performance of individual teachers, administrators, and support staff must also be woven into this web. Once woven, the web is strummed so all in it feel the vibration of accountability pulses through their individual and collective consciousness. Everyone in the web—from school board members to the night-shift janitor—must clearly realize the consequences of nonperformance, and each one must also clearly realize the rewards associated with success and high performance.

Benefits of Creating and Maintaining Strategic Alignment

By creating and maintaining strategic alignment, your school district may experience the following benefits:

1. Greater success as people, priorities, practices, and processes are aligned with a district's strategic goals and vision
2. Improved service to students and their parents because of improved work processes, a more satisfying and motivating work environment for employees, and stronger relationships with external stakeholders
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XII. Leadership

1. Leading Without Control

Moving beyond the "Principal Do-Right" model of educational leadership

Charlotte Roberts

Though she is not a coauthor of this book, Charlotte Roberts has been a key figure in its evolution. A leading consultant in organizational learning, and coauthor of The Fifth Discipline Fieldbook and The Dance of Change, she began to help the Danforth Foundation (page 418) in a project defining a new leadership model for public school superintendents in 1993. She introduced Nelda Cambron-McCabe to this project, and has offered encouragement and perspective throughout—as well as a unique and very useful take on educational leadership. She is currently working with two school systems in making organizational learning a core competence in their culture.

The elementary school principal turned to me during the final session of an administrators' year-long course on organizational learning and said, "My ladies (meaning his teachers) want me to make all the decisions and tell them what to do. They don't want any part in decision making or planning for our school." He was a young principal with a recent graduate degree, and his comment was extremely curious. He had just spent twelve months studying ways to develop authentic participation by his staff. Did he really believe that all this time had been wasted?

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Several months later, another elementary school principal gave me the "ahah!" I was looking for. She was a member of a school district team from the American Midwest, one of six teams that had agreed to use
Their own experience as a case study for learning about learning organizations. Each team included teachers, principals, and administrators; some even brought along their superintendent. We dug into the theories of Harvard Business School professor Chris Argyris, theories that provide the foundation of the discipline of mental models. Argyris had written:

There seems to be a universal human tendency to design one's actions consistently according to four basic values:
1. To remain in unilateral control;
2. To maximize "winning" and minimize "losing";
3. To suppress negative feelings; and
4. To be "rational" as possible—by which people mean defining clear objectives and evaluating their behavior in terms of whether or not they have achieved them.

The purpose of all these values is to avoid embarrassment or threat, feeling vulnerable or incompetent.

In the article, Argyris points out that the net effect of these values is to block any kind of fruitful learning or change in an organization. Our conversation was lively and full of disclosure. People were "fessing up" to their own transgressions. There was release and freedom in the air. Suddenly a principal named Becky Furlong called a halt to the conversation with her exclamation, "Hey, wait a minute! This is all backward! Those four values are the exact measurements of a good superintendent or principal!" She went on to lead the group in detailing the prevailing model of leadership in public education. In my own mind, I began to think of this as the "Principal Do-Right" model.

1. A good leader gains and remains in control at all times. Never let them see you doubt or sweat. Take a stand and hold that position. No one else will defend the children (or policy, teacher, or curriculum) as well as you will.
2. A good leader "wins" all confrontations, regardless of the party with whom she or he is sparring—child, parent, teacher, administrator, board member, politician. Winning isn't always possible, so be able to recast the exchange as learning, planning or negotiation. Above all, when pursuing a "win," wear your opponents down with rationality (point four). Another strategy for winning is to redefine the issue as a local situation that will be dealt with privately. By dividing a complex situation and initiating local "fixes" on the parts, the leader can declare a "win."
3. Negative feelings expressed by the principal indicate loss of control and maybe incompetence. If the building has an undertone of negative feelings, it's a sign that the principal has not been able to inspire or motivate the teachers. A display of anger, anxiety, or grief by the principal or superintendent poisons the air and ultimately spills over to the children. "If negative feelings have a hold in your building," said another principal, "it's like getting rid of roaches in an old apartment building."
4. Being rational is a sign of being educated—it's that simple. An educator, after all, develops the minds of our young people. To not appear rational is to appear incompetent. Even with emotional issues like unexpected violence, leaders are supposed to gain control, remain in control, and quickly come up with a rational plan for responding.

Becky's description reminded me of a doctoral program for educational administration that I had attended several years before. (I had left when I realized that I didn't have the constitution to endure the treatment that public education leaders get.) There, too, we had been presented with an implicit (and sometimes explicit) model of effective leadership: Advocate. Clarify the problem and take a position. Don't back down. Be strong. Be rational. Be convincing. Be right. This "Principal Do-Right" model, in itself, is a burden that many of our public educators are saddled with. It leads directly to the kinds of behavior that make it difficult to inquire and reflect at length, or to draw people together to a common purpose.

Now I understood the reason why that principal from the year before had said, "My ladies want me to make the decisions." He meant: "They refrain from getting involved so that I can personally deal with all the school's conficts." His job, as he espoused it, was to shield his staff from problems, so they could be free to teach. But in reality, his entire leadership approach was designed to funnel problems directly to him, before anyone else could get to them (a form of unilateral control on his part). In short, the "Principal Do-Right" model of leadership was the primary driving force behind his behavior.

Since the leadership style itself was undiscussable and perhaps even subconscious, he could not recognize its power over his school. He had to see his "ladies" as not just tolerating but demanding control from him. Nor could he allow himself to see any of the negative consequences that came from this leadership style, such as the anxiety he felt about being wrong or the passivity and cynicism engendered among the teachers. Imagine the trap in which he was caught. He could go to a hundred sem-
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TOWARD A NEW MODEL OF EDUCATIONAL LEADERSHIP

For the past five years, I have been working with a study group of school superintendents, sponsored by the Danforth Foundation, to draw forth a new leadership model for public education. We have not finished discovering, articulating, and testing it, but we have laid some groundwork. We have focused on four key competencies that allow people to lead without having to control.

1. Engagement: Ron Heifetz, director of the Leadership Education Project at Harvard’s Kennedy School of Government (and one of the mentors of our project), defines leadership itself as the ability to mobilize people to tackle tough problems. To my mind, that is engagement, and it has two components. First is the capability to recognize an issue or situation that has no clear definition, no simple “cause” and no obvious answer. (Ron Heifetz calls these “adaptive problems”; the eminent systems theorist Russell Ackoff calls them “messes.”) When faced with such complexity, convening the appropriate people in the system and facilitating their conversations and learning is called for. This is the second part of engagement.

In his book Leadership Without Easy Answers, Heifetz provides twelve questions for reflection that, in themselves, represent a process of engagement. The first five questions are aimed at stepping back and dispassionately diagnosing the nature of a crisis or problem and the attitudes people hold about it:

- What’s causing the distress (from the “mess” or “adaptive problem”)?
- What internal contradictions does the distress represent?
- What are the histories of these contradictions?
- What perspectives and interests have I, and others, come to represent to various segments of the community that are now in conflict?
- In what ways are we in the organization or working group mirroring the problem dynamics in the community?

The next three questions reflect upon the tolerable levels of tension, distress, and learning that the community (in this case, the school system) can handle:

- What are the characteristic responses of the community to disequilibrium—to confusion about future direction, the presence of an external threat, disorientation in regard to role relationships, internal conflict, or the breaking up of norms?
- When in the past has the distress appeared to reach a breaking point—where the social system began to engage in self-destructive behavior, like civil war or political assassination?
- What actions by senior authorities have traditionally restored equilibrium? What mechanisms to regulate distress are currently within my control, given my authority?

The final four questions help identify the places to intervene:

- What are the work and work avoidance patterns particular to this community?
- What does the current pattern of work avoidance indicate about the nature and difficulty of the present adaptive challenge and the various work issues that it comprises?
- What clues do the authority figures provide?
- Which of these issues are ripe? What are the options for tackling the ripe issues, or for ripening an issue that has not fastened in people’s minds?

Engagement is not as easy as it might seem. First, the complexity of the situations usually comes with a lot of emotion on the part of constituents. Creating a safe space for conversation and facilitating listening as well as speaking are not skills taught in graduate schools. With the lack of clarity and the high pitch of emotions, the temptation is to go back to Argyris’s value one, gain unilateral control, and create temporary peace.

For examples of “messes” where engagement is necessary, see pages 135, 355, and 471

2. Systems thinking: The ability to recognize the hidden dynamics of complex systems, and to find leverage, goes hand in hand with engagement. Ludwig von Bertalanffy, one of the grandparent of systems thinking, offered a critical question to reflect on before taking action on a complex problem: “Where are the boundaries to this situation?”
TOWARD A NEW MODEL OF EDUCATIONAL LEADERSHIP

For the past five years, I have been working with a study group of school superintendents, sponsored by the Danforth Foundation, to draw forth a new leadership model for public education. We have not finished discovering, articulating, and testing it, but we have laid some groundwork. We have focused on four key competencies that allow people to lead without having to control.

1. Engagement: Ron Heifetz, director of the Leadership Education Project at Harvard’s Kennedy School of Government (and one of the mentors of our project), defines leadership itself as the ability to mobilize people to tackle tough problems. To my mind, that is engagement, and it has two components. First is the capability to recognize an issue or situation that has no clear definition, no simple “cause” and no obvious answer. (Ron Heifetz calls these “adaptive problems”; the eminent systems theorist Russell Ackoff calls them “messes.”) When faced with such complexity, convening the appropriate people in the system and facilitating their conversations and learning is called for. This is the second part of engagement.

In his book Leadership Without Easy Answers, Heifetz provides twelve questions for reflection that, in themselves, represent a process of engagement. The first five questions are aimed at stepping back and dispassionately diagnosing the nature of a crisis or problem and the attitudes people hold about it.

- What’s causing the distress (from the “mess” or “adaptive problem”)?
- What internal contradictions does the distress represent?
- What are the histories of these contradictions?
- What perspectives and interests have I, and others, come to represent to various segments of the community that are now in conflict?
- In what ways are we in the organization or working group mirroring the problem dynamics in the community?

The next three questions reflect upon the tolerable levels of tension, distress, and learning that the community (in this case, the school system) can handle:

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That’s not a small question. If you think it is, raise it before a group and see how long it takes to gain consensus. The answer identifies (or begins to identify) the people who need to be included in the thinking and action. Bertalanffy suggested that when groups took their thinking one boundary larger than the place they set it, valuable insights often occurred. For example, if a group thought the situation involved only their middle school, they might look at the situation from the perspective of the next larger system, the school district. In other words, they could consider to what extent other schools in their district or elsewhere are part of the problem.

See the article “A System Diagnoses Itself” for an example of this, page 364.

After the boundaries are temporarily set, the next questions to ask, (from Meg Wheatley’s work) are: “Who belongs to the system? Do they know they belong?” Get their input. Work the social system.

Convene a group, for example, to consider the forces at play and the interaction of those forces. A sample scenario: A state legislature’s decision to measure the performance of each school causes anxiety, which leads to over-supervision by administrators, which leads to fear by teachers, which leads them to do two things. They can “teach to the test,” forgone teachable moments and exciting tangents. They can also tell children who are expected to produce low scores to stay home for the next few weeks while the tests are being given. School scores go up, the legislature takes credit for good things, and schools go on gaming the testing process. The performance of the schools looks good; the performance of the children is lost.

A new superintendent comes into the system and discovers what’s going on. Should she disclose the cover-up or bask in the artificially high performance? What is the vision for the system? Whose issue is this? Where are the boundaries? Who belongs in this situation, and do they know they belong?

3. Leading Learning: The ability to engage people and to study systems is not enough for dealing with complex issues in public education. To lead learning means to model a “learner-centered,” as opposed to an “authority-centered,” approach to all problems, inside and outside the classroom.

Most of us have experienced the authority-centered approach to problems in the way we were taught as we progressed through the educational system. Teaching in its authoritative form exposes the child to theories, techniques, and rules, and requires the child to prove the accurate reception of all this information through testing. Then teachers “grade” the quality of the child’s reception. If the child receives poor grades over a course of time, he or she gets “remedial” teaching. Teaching, in short, is organized for the adults in the system—in the same way that “Principal Do-Right” leadership is organized for the sake of the administrator’s self-image.

Authority-centered problem-solving is insidious and sometimes difficult to spot. Even if there is a plaque on a school wall saying “We’re student centered,” be suspicious. Look at the school policies. You may find the policies are designed to reinforce authority at the expense of learning and to make the life of the adult teachers safe and comfortable.

What, then, does learner-centered leadership, as a competence of educational leaders, mean? It means that learning and the acceptance of uncertainty that is always part of learning are part of the culture, or the genetic code, of the system. Teachers still teach—probably in many different ways from how they were taught themselves, even during their professional education. When the child doesn’t accurately receive a lesson, the teacher asks, “How did I contribute to this situation? What does this student need to succeed? What can I say or do to help this child take in and apply these concepts? Does the student feel a part of his or her learning? Who belongs in this conversation, and do they know they belong?”

In such a culture, all people in the system are seen as learners and act as learners. It is no longer as important to appear “learned”—to have several graduate degrees and authoritativeness as the primary credential of leadership. Instead, leaders expect themselves and others to be uncertain, inquiring, expectant of surprise, and perhaps a bit joyful about confronting the unknown.” Leading learning gives principals and superintendents the freedom to say “I don’t know where we’re going . . . and I’m still willing to dig into this mess to discover a way for us to go.”

4. Self-awareness: This competence recalls, for me, one of the most painful and yet useful conclusions from our Danforth study group conversations. Leaders in public education come and go (voluntarily and nonvoluntarily) at an alarming rate, as did the superintendents in our group. What had all of us missed seeing? What were the early warning signals that the superintendent no longer “fit” the system and was about to be let go?

We concluded that leaders must be self-aware. They must know
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We concluded that leaders must be self-aware. They must know
the impact they are having on people and the system and how that impact has changed over time. Perhaps the leadership model has changed since they've come to the job. The school board that hired the superintendent rarely has the same membership after two to four years. The new members may demand another leadership model. Then it's time to go.

Self-awareness is a position of strength. There are at least two components to the task of developing it: taking time away from the office to personally reflect, and engaging a personal coach in the office for some period of time. Time away from the office may involve a personal mastery program or a good psychotherapist who understands the pressures of public leadership. A personal coach is someone who genuinely likes you and cares about your wholeness. The coach also must be committed to your journey into the dark of the decision: "Can I continue to offer value for this system?"

The pain of being fired or retired early, after being shredded in the local media, is horrible. There will, of course, always be pain (and joy) in any leadership position. Knowing one's strengths, personal vision and values, and where your personal "lines in the sand" are drawn will build a base of self-awareness that allows you to craft your career and have more good days than bad.

2. Peer Partners

The Danforth Foundation Superintendent's Forum

For the past seven years, the Danforth Foundation, a nonprofit foundation based in St. Louis, has regularly brought together a group of about sixty school superintendents to talk about their organizational learning efforts in a program called the Forum for the American School Superintendents. Of course, school superintendents often come together for professional meetings, but the Danforth Forums (as we call them) are different. Danforth provides some support for superintendents' travel expenses and for small-group learning initiatives, but there's much more to this effort than money. The superintendents come from urban, suburban, and rural districts, but all of them have at
THE POWER OF VISION

The power of a vision is essential for the ongoing success of any organization because it sets the stage, frames the actions, and directs the energy of the people in the organization. Senge (1990) believed that people must be committed to the vision, not just compliant with it. Commitment releases human potential and energy. Effective leadership develops this commitment and sustains school improvement.

Fullan (1999) highlights the developmental nature of vision building. He says, "The visions of dynamic complexity one needs a good deal of reflective effort, before one can form a plausible vision. Vision always emerges more than it precedes, action. Even then it is always provisional. . . ." Vision, which is essential for success, must evolve through the dynamic interaction of organizational members and "leaders" (p. 28). Near the end of the district preparation to re-cycle to Phase 1, the strategic director and I are asked to prepare for Phase 1. In returning to Phase 1, the school district notes a new vision or re-commits to the current one. In this experience of reflecting and acting upon the district’s vision, as described by Fullan, is built into the culture of a school system.

LEADERSHIP FOR EFFECTIVE KNOWLEDGE WORK SUPERVISION

Leadership for innovation is absolutely critical to the success. Below, we summarize some important leadership concepts and principles. Mastering these is important for sustaining school improvement.

Creating innovative ideas to redesign work processes, social architecture, and environmental relationships, then implementing and sustaining these ideas, is a tremendous task. This cannot be undertaken without many leaders following the same script, which is defined by the school system’s strategic direction developed in the Phase 1 Search Conference. Building and maintaining support while facing various challenges, setbacks, and Sisyphean endurance tests that are often part of large-scale change requires consistent, continual, and creative leadership efforts on the part of everyone.

TRANSFORMATIONAL LEADERSHIP

A specific type of leadership is required to create and sustain school district improvement. In the past, leadership was associated with “getting things done” or “leading people somewhere.” In KWS, leadership is required to transform three sets of key school system variables: the district’s knowledge work processes, its social architecture, and its relationship with its environment. This kind of leadership is called transformational leadership (Burns, 1978; Leithwood, 1992).

KWS requires transformational leaders to motivate followers to work for long-term goals instead of short-term self-interest, and to work toward achievement and self-actualization instead of emotional security (Avolio & Bass, 1988). Transformational leadership is inspirational because it redirects the energies and potential of people to achieve a vision. Transformational leadership taps into the emotional energy of people and provides them with meaning and a sense of personal value. People inspired by a transformational leader no longer "go to work"; instead, they work for a "cause." There is a sense of excitement, adventure, and enthusiasm that emerges as people realize they can do more than they ever thought possible.

Dimensions of Transformational Leadership

Transformational leadership factors emerged from Bass’s (1985) research. He identified five factors that describe transformational leaders:

- **Charisma**—the ability to instill values, respect, and pride and to articulate a vision.
- **Individual Attention**—paying attention to followers’ needs and assigning meaningful projects so followers grow personally.
- **Intellectual Stimulation**—helping followers to rethink rational ways to examine situations and encouraging followers to be creative.
- **Contingent Reward**—informing followers about what must be done to receive the rewards they prefer.
- **Management by Exception**—permitting followers to work on tasks without being interrupted by the leader unless goals are not being accomplished in a reasonable time and at a reasonable cost.

Avolio, Waldman, and Yammarino (1991) described the “Four I’s of Transformational Leadership”: (a) idealized influence, (b) inspirational motivation, (c) intellectual stimulation, and (d) individual consideration. Bass and Avolio (1993) add depth to these “Four I’s.” They explain that “[t]ransformational leaders integrate creative insight, persistence and energy, intuition and sensitivity to the needs of others to forge the strategy-culture alloy” for their organizations” (p. 113). Each of these “Four I’s” is important for KWS.

An essential element of transformational leadership is its focus on vision. Making explicit the core values that support the vision, modeling behaviors and attitudes that reflect those core values, and coaching and facilitating the development of individuals in adopting these core values are important tasks of transformational leadership.
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An essential element of transformational leadership is its focus on vision. Making explicit the core values that support the vision, modeling behaviors and attitudes that reflect those core values, and coaching and facilitating the development of individuals in adopting these core values are important tasks of transformational leadership.
Another fundamental aspect of transformational leadership is an astute understanding of the interconnectedness of all aspects of a school system (as reflected in the "string" metaphor, above). This understanding is a hallmark of systems thinking. Systems thinking is also an essential aspect of organizational learning (Senge, 1990). Transformational leaders who want to change school systems into high-performing organizations of learners must be well versed in the subtleties of systems thinking. Systems thinking helps leaders to see the school system as a whole and to see interrelationships, interdependencies, patterns, and relationships. Leaders also use systems thinking to determine where small changes in the district might result in great improvements.

Transformational leaders also have an informal, personal style with people. They approach their tasks from a collaborative orientation reflected in statements such as “We are in this together, so let’s see what we can do to be creative and solution oriented.” Transformational leaders see their role as coaching and facilitating rather than as directing or commanding. Building relationships, inspiring creativity and humor, demonstrating optimism, finding solutions, and having dogged persistence are important characteristics of those who want to transform entire school systems into high performing organizations of learners.

Transformational leadership provides the contextual background for four other levels of leadership required for effective KWS. These are: strategic leadership, tactical leadership, team leadership, and self-leadership (see Figure 10-1).

**Strategic Leadership**

Strategic leadership focuses on the big picture, the vision, the core values, and the strategy for achieving the vision. In KWS, the SLT provides strategic leadership. The Strategic Leadership Team (SLT) does not replace the superintendent of schools as the CEO of the district but rather collaborates with the superintendent to provide strategic leadership for systemic school improvement.

The SLT is also the primary "vision keeper." In this role, members of the SLT ask questions such as “Who are we as a school district?” “Where are we going?” and “What do we need to do to get there?” This team frequently monitors the external environment, the school system’s culture, and the morale of people in the school system to determine what needs to be done to achieve the district’s vision more effectively.

Nicholls (1999) described two important tasks of strategic leadership: path finding and culture building. The vision is directly related to path finding. Culture building, which supports the vision, depends upon the quality and articulation of the core values. Leaders engage in these path-finding and culture-building tasks so their school system can move toward higher levels of performance. When strategic leadership is functioning properly, “[t]he is a unity of purpose throughout the school system in accord with a clear and widely understood vision. This environment nurtures total commitment from all employees. Rewards go beyond benefits and salaries to the belief ‘we are family’ and ‘we do excellent work’” (Scholtes, 1992, Section 1, p. 12).

The SLT also aligns school district policies, procedures, and reward systems with the newly created organizational culture of participation and collaboration. The SLT removes obstacles, creates metaphors to facilitate organizational learning, finds and distributes resources, and models appropriate behaviors to encourage others to do the same. They are practiced systems thinkers and diligently apply themselves to anticipate problems, challenge assumptions that could hinder progress, and explore the effects of policies and procedures.
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![Figure 10-1. Leadership Processes for Knowledge Work Supervision](image)

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Inventing Better Schools

An Action Plan for Educational Reform

Philip C. Schlechty

Author of School for the 21st Century
after these questions have been answered can teachers begin to figure out what they can get the students to do.

The way time, people, space, knowledge, and technology are organized clearly determines what students will be likely to do. If schools were centered on the work of students, these factors would be organized to support what teachers want them to do. Unfortunately, schedules are more often designed with the doings of adults as the focal point. It is small wonder, therefore, that teachers often feel obliged to perform for students and that, for many students, the primary task is to watch their teachers work and perform and to take careful notes so that impressions can be reported later on a test. Thus the idea that great teachers are also great performers, even actors, is usually well received by many teachers, for acting is so much of what they are required to do. It will always be so, at least until schools are organized around the performances of students rather than the performances of teachers.

Teachers as Leaders and Inventors

I do not intend to disparage teachers or teaching, to diminish the importance of teachers, or to start once again the quest for the "teacher-proof curriculum" when I argue that not much in the way of improving our schools will occur until we abandon the assumption that the work of adults, particularly teachers and other educational personnel, is the key determinant of the quality of student learning. The basis for reorganizing America's schools is to be found in understanding the implications of the fact that what students learn is determined by what the schools are able to get them to work at and with.

One of the most basic implications of organizing the schools around the work of students is that the role of the teacher will need to change in dramatic ways. Rather than being performers on the stage or psychiatrists "treating" the young, teachers will need to be viewed as leaders and inventors. The focus of leaders is on what they can get others to do, and their effectiveness is realized through others. The focus of inventors is to create products, systems, and services that solve problems and meet needs.

The concern of teachers as leaders is properly on what they are attempting to get the students to do: to engage in purposeful activity (work) that leads to the desired learning. Teachers invent intellectually engaging work for students and then lead them to do it. This simple idea, which has profound implications, will guide the remainder of this book.

Knowledge Work as the Product of Schools

Knowledge work involves transforming information into usable propositions, organizing information in ways that inform decisions and actions, producing products that require others to apply knowledge or use information, or arranging and rearranging concepts and ideas in useful ways. Writing a theme or an essay is a form of knowledge work, as is preparing a lesson and presenting it to students. Writing plays and skits is a form of knowledge work, and essays are products of knowledge work, as are all academic and artistic exhibitions.

Knowledge work has always been central to education. Students who are motivated to produce the kind of knowledge-work products that are valued in schools are also those who learn the most in schools. Students whose living rooms and dining room tables are places of lively debate and discussion, where they are expected to perform and where their performances are taken into account by parents and siblings, are likely to find well-conducted classroom discussions exciting and inviting. Those who come from families where such activities do not occur or are devalued as a waste of time are less likely to find the production of such performances attractive. Until the advent of the computer, the videocassette, the audiocassette, the CD-ROM, and other electronic imaging and communication systems, the range of knowledge-work products that schools could expect students to produce was very limited. Students who found the creation of this limited range of knowledge-based products compelling learned much that the schools were designed to teach. Those who were less enthusiastic about producing such products learned less. Consequently, the correlation between social class and academic achievement should not be surprising. The culture of poverty generally does not place great emphasis on producing the kind of knowledge-work products that are available in the traditional school.

Today, the range of knowledge-work products students can be called on, encouraged, and permitted to produce has expanded
after these questions have been answered can teachers begin to figure out what they can get the students to do.

The way time, people, space, knowledge, and technology are organized clearly determines what students will be likely to do. If schools were centered on the work of students, these factors would be organized to support what teachers want them to do. Unfortunately, schedules are more often designed with the doings of adults as the focal point. It is small wonder, therefore, that teachers often feel obligated to perform for students and that, for many students, the primary task is to watch their teachers work and perform and to take careful notes so that impressions can be reported later on a test. Thus the idea that great teachers are also great performers, even actors, is usually well received by many teachers, for acting is so much of what they are required to do. It will always be so, at least until schools are organized around the performances of students rather than the performances of teachers.

Teachers as Leaders and Inventors

I do not intend to disparage teachers or teaching, to diminish the importance of teachers, or to start once again the quest for the "teacher-proof curriculum" when I argue that not much in the way of improving our schools will occur until we abandon the assumption that the work of adults, particularly teachers and other educational personnel, is the key determinant of the quality of student learning. The basis for reorganizing America's schools is to be found in understanding the implications of the fact that what students learn is determined by what the schools are able to get them to work at and with.

One of the most basic implications of organizing the schools around the work of students is that the role of the teacher will need to change in dramatic ways. Rather than being performers on the stage or psychiatrists "treating" the young, teachers will need to be viewed as leaders and inventors. The focus of leaders is on what they can get others to do, and their effectiveness is realized through others. The focus of inventors is to create products, systems, and services that solve problems and meet needs.

The concern of teachers as leaders is properly on what they are attempting to get the students to do: to engage in purposeful activity (work) that leads to the desired learning. Teachers invent intellectually engaging work for students and then lead them to do it. This simple idea, which has profound implications, will guide the remainder of this book.

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Chapter Seven

Creating the Capacity to Support Change

In education, the changes that count most are those that directly affect students and what they learn. To produce such changes, school districts, communities, and state agencies must be changed in ways that will support and sustain the changes needed in classrooms and in schools. Enhancing the capacity of the school district to support change at the building and classroom levels is the most critical work of the superintendent and those who work in the district office and should be the central concern of boards of education as well. In the preceding chapter, I discussed issues related to describing and assessing the district’s capacity to support change. Here I will discuss ways to increase this capacity where it is found to be lacking.

Developing a Focus on the Future

Three conditions must be present if schools are to maintain a focus on the future:

1. Local leaders (board members, superintendents, principals, and teacher leaders) must be in general agreement regarding the problems that give rise to the need for the change and must have a common commitment to the idea that the best and perhaps the only way to address the problem is to change the way the organization goes about doing business.

2. Local leaders must be in general agreement regarding what they believe about the purpose of the schools they lead. They must also be in agreement regarding the system of rules, roles, and relationships they will support to pursue this purpose, and they must agree on the values that will guide their work and the commitments they will make in support of these values.

3. Local leaders must be in a position to market their framing of the problems and issues and their view of the future to those whose support will be needed if that future is to be realized.

If they are carefully designed, the assessment processes discussed in the preceding chapter can do much to lay the groundwork for enhancing the capacity to focus on the future. More can be done as well.

Creating a Common View

If real change is to occur, top-level leaders, including board members, the superintendent, principals, key central office leaders, and union leaders must be willing and able to spend enough time together and engage in enough dialogue and analysis that they come to share a general understanding about the educational landscape, both locally and nationally. They must also share a common understanding of the problems they face, and they must learn to frame these problems in common ways: for example, top-level leaders need to have a clear understanding of how the present performance of schools in general and the schools in their district in particular compares to the performance of schools in the past. Is the dropout rate really higher today than in the past? Has student performance deteriorated? Or is the source of dissatisfaction with schools a result of a change in expectations? Such serious matters cannot be addressed as an afterthought or an add-on.

Educational leaders must also come to a common understanding of what they believe about school and life in schools, and this activity, too, requires commitment and resources. At a minimum, these leaders must develop a consensus around answers to questions such as the following:

- What is the purpose of education? For example, is it to select and sort students on the basis of their capacity to do particular forms of schoolwork, or is it to develop the capacity of students to do high-quality work?
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should be left alone. Similarly, the top-down/bottom-up argument is not an either/or question. Legitimate roles exist for both the "top" and the "bottom."

- On one side, the board expects to make decisions about the formation of positions is to they do not, positions of less do so, and can do so. Beliefs that will the leader the side, but the prepared and inviting exceeded dis-

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frame 37, for propositions advanced by one set of delegates. Later, as the focused discussion became more heated and less civil, other groups formulated alternative resolutions and alternative plans. It was out of this dialogue, which started in someone's head, that the greatest consensus document known in human history was created. It would not have happened without the presence of leaders who knew what they believed, who were willing to articulate those beliefs, and who were also willing to listen to others who disagreed with them.

Leaders must ensure that everyone participating in the discussion understands what it is about and what its intended result is to be. The result in the case of the discussion of beliefs that should guide schools must be a well-articulated belief structure, that is, a publicly communicated (and communicable) set of statements and propositions that is complete, comprehensible, and compelling and that if endorsed by parents and other relevant constituencies could serve as a guide for all district operations.

Beliefs That Compel Action

To be complete, the beliefs that guide the system must address at least the areas suggested in Chapter Five: beliefs about purpose, beliefs about the capacity of children to learn, and so on. Without answers to the questions associated with these areas, the organization will have an inadequate moral compass and structural map. To be comprehensible, the statements and propositions must be available in documents, videotapes, recordings, and handbooks that, taken as a whole, serve to communicate and illuminate the set of beliefs and to enlighten effectively all who are concerned with their meaning and implications.

Many consultants argue that the key documents that communicate beliefs can and should be stated in brief and simple form. I do not disagree with this view; however, it sometimes leads to the mistaken notion that the beliefs themselves should be simple and that what is said about them should not take much time in the life of the organization. The key principles that guide the school, or any other organization, should be capable of being summarized in brief statements, perhaps so brief that their content can be brought to mind with reference to the key words or elements of these basic propositions. But the beliefs stated will not have the power to give direction to the system if all that is meant, contained, or implied by them can be understood by reading a single-page memo or the back of a business card. The first ten amendments to the U.S. Constitution are illustrative of what I mean here, as is the Constitution itself.
The first ten amendments, which are statements of belief about liberty, justice, and the relationship between individuals and government, are simply stated, so simply stated that it is commonplace to have schoolchildren memorize key words that refer to each of them. Indeed, some individuals suggest that to be culturally literate, an individual should be able to call to memory the substance of each of these amendments, and the other sixteen as well. Yet innumerable additional documents guide our nation’s government, including many complex, cumbersome, and sometimes contradictory Supreme Court decisions intended to illuminate these statements and make their meaning more comprehensible to those who are called on to adhere to their principles.

The content of the Constitution, excluding the first ten amendments, has much more to say about rules, roles, and relationships than about the core values that will guide the government (that is why the radicals insisted that the first ten amendments be added). But the Constitution is certainly not a simple document; its ratification required that what was intended be clearly communicated and explained. As a consequence, numerous documents and pamphlets—not the least of which were The Federalist Papers (1787–1788) 1981—were created to make the meaning of the Constitution more comprehensible to those who were not in on the original drafting of this profound statement of national belief and intention, which is as well a profound statement of values and commitments.

If belief and believing are to be central to the reinvention of America’s schools, then those who lead the schools must do much more than is now being done about the beliefs that guide—or purport to guide—these systems. An occasional weekend retreat where individuals go to “get a vision” will simply not do. Neither will an occasional goal-setting conference nor a spasm of strategic planning. Beliefs must be constant, and they must constantly be attended to in the literature of the organization and in the symbols of the system as well as in the public expressions of those who occupy leadership positions therein.

For beliefs to be compelling, they must be articulated in language that stirs the heart as well as engages the mind. Unfortunately, throughout history, scoundrels and demagogues who understand the power of symbols to compel action have persuaded men and women to do horrible things by employing such symbols. This has caused many to distrust the purposeful use of symbols to compel action. Yet the fact remains that humans are a symbol-making lot, and most of what binds people together and causes them to act in concert is somehow related to the symbols they use to compel action. (“Compel” does not mean “coerce.” Rather, it means creating an urge toward action. The means that are used to compel—

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The goal of though thas. should nappen. Rather, it is to find ways to elicit sup- port for the views that are proposed by leaders and, conversely, to
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For more about system dynamics in the classroom, see page 231.

This volume, the fourth in the "Fifth Discipline Resource" series, includes 191 pieces of writing by 113 authors, describing tools and methods, reflections, guiding ideas, and exercises and resources that may be adopted to help make institutions of learning more like learning organizations. Many of the articles are intensely pragmatic, geared toward helping teachers, school administrators, or parents solve particular problems. Many of them are deeply reflective, aimed at helping us see the world as we haven't seen it before, so we can operate within it, and shape it, in more effective ways. They are not prescriptive or restricted. They are easily adapted to a wide variety of circumstances, including informal education and lifelong learning. There are no "top ten learning styles," as in this book, no schools that have their problems figured out in ways the rest of us can simply copy. Indeed, no school's experience can be "taken over" by another's situation wholesale. All schools, and their situations, require their own unique combination of theories, tools, and methods for learning.

We call this book *Schools That Learn* because we are not limiting our vision to schools or colleges as they are often defined, even to school buildings. The school, as we see it, is a fulcrum for educational and societal change. Classrooms can only improve, in a sustainable way, if schools around them improve. Schools depend on the districts and communities of which they are a part. And sustainable communities, in turn, need viable schools for all of their children and learning opportunities for all of their adults. In our view, a learning school is not so much a separate place (for it may not stay in one place) as a meeting ground for learning—dedicated to the idea that all those involved with it, individually and together, will be continually enhancing and expanding their awareness and capabilities.

**INTRODUCING THE FIVE LEARNING DISCIPLINES**

We see *Schools That Learn* as a kind of "prequel" to our other books about learning organizations. During the last few years, people in many companies have been called upon to act with greater autonomy, to draw their own conclusions, to lead as well as to follow, to question difficult issues in a safe manner, and to risk failure so that they may build capabilities for future successes. These are the skills that learning organizations and learning communities demand. Schools that train people to obey authority and follow the rules unquestioningly will have poorly prepared their students for the evolving world they will live in.

The previous books in this series identified five key disciplines of organizational learning. These five disciplines are not "reforms" or "programs" imposed from the outside, but ongoing bodies of study and practice that people adopt as individuals and groups. As many teachers and administrators have noted, the learning disciplines offer genuine help for dealing with the dilemmas and pressures of education today:

- **Personal Mastery:** Personal mastery is the practice of articulating a coherent image of your personal vision—the results you most want to create in your life—alongside a realistic assessment of the current reality of your life today. This produces a kind of innate tension that, when cultivated, can expand your capacity to make better choices and to achieve more of the results that you have chosen.
- **Shared Vision:** This collective discipline establishes a focus on mutual purpose. People with a common purpose (e.g., the teachers, administrators, and staff in a school) can learn to nourish a sense of commitment in a group or organization by developing shared images of the future they seek to create and the principles and guiding practices by which they hope to get there. A school or community that hopes to live by learning needs a common shared vision process.
- **Mental Models:** This discipline of reflection and inquiry skills is focused around developing awareness of attitudes and perceptions—your own and those of others around you. Working with mental models can also help you more clearly and honestly define current reality. Since most mental models in education are "undiscussable" and hidden from view, one of the critical acts for a learning school is to develop the capability to talk safely and productively about dangerous and discomforting subjects.
- **Team Learning:** This is a discipline of group interaction. Through such techniques as dialogue and skillful discussion, small groups of people transform their collective thinking, learning to mobilize their
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For more about system dynamics in the classroom, see page 231.

We would like to acknowledge the influence of many writers on the theories and the practice of this book, including but not limited to: John Dewey, Jean Piaget, Paulo Freire, and many others whose names you will find in these pages.

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energies and actions to achieve common goals and drawing forth an intelligence and ability greater than the sum of individual members’ talents. Team learning can be fostered inside classrooms, between parents and teachers, among members of the community, and in the “pilot groups” that pursue successful school change.

**Systems Thinking:** In this discipline, people learn to better understand interdependency and change and thereby are able to deal more effectively with the forces that shape the consequences of their actions. Systems thinking is based on a growing body of theory about the behavior of feedback and complexity—the innate tendencies of a system that lead to growth or stability over time. Tools and techniques such as stock-and-flow diagrams, system archetypes and various types of learning labs and simulations help students gain a broader and deeper understanding of the subjects they study. Systems thinking is a powerful practice for finding the leverage needed to get the most constructive change.

For an overview of the five learning disciplines, see page 59.

Educators have told us that the learning disciplines sound great—“but what do we do Monday morning? How do we create a sense of systemic awareness or personal mastery within our staff? And is it worth even trying with students? How can we integrate these skills and practices with our existing curriculum and all the changes imposed on us? How do we discover exactly what type of learning classroom or school we wish to create? What do we do about the pressures coming from outside? How do we get started?”

Parents who are familiar with the learning disciplines have similar questions: “How do we build a better place for ourselves in the systems of our children’s schools? How do we use these disciplines to deal with problems like homework or disputes with other children? How do we use them in working with our children’s teachers? What kind of relationship can we build between the school and the workplace, or other places in the community?”

No one person has the answers to these questions. But effective ways of approaching the questions are emerging from the collective experience of people in a wide variety of public and private schools, colleges, and universities. In all, thousands of people—parents, teachers, administrators, experts, politicians, and students themselves—are evolving together into a worldwide community of organizational learners in education. We