

**CONNECTING LEADERSHIP AND LEARNING**

**A Planning Paper**

**developed  
for the**

**American Association of School Administrators**

***National Center for Connected Learning***

**by**

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***“Thus the task is not so much to see  
what no one yet has seen,  
but to think what nobody yet has thought  
about that which everybody sees.”***

**Schopenhauer**

# CONNECTING LEADERSHIP AND LEARNING

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# 1

## OVERVIEW

**Much of what happens in schools today no longer seems to make sense. It makes even less sense that we as educators find ourselves relatively powerless to do something about it. After all, education *is* the business of sense-making.**

- **What is it that keeps us as dedicated professionals -- teachers and administrators -- from fulfilling the purpose that brought us into schools: *to make a difference in children's lives*?**
- **What is it that prevents committed reformers in both the public and private sectors from creating sustainable systemic changes in the ways these schools work, regardless of the quantity and quality of resources they provide?**
- **What is missing that prevents passionate, dedicated educators from *working together* to translate their common commitment into a total, similarly dedicated and caring school system?**

**Why should that be so hard? *It doesn't make sense!***

### A. Search for a *system* that makes sense

When Dr. Paul D. Houston took on the position of Executive Director of the American Association of School Administrators (AASA) after a string of superintendencies in districts covering the full spectrum from urban to suburban, he brought with him a range of the “normal” frustrations that go with that particular CEO role.

Most central was a concern for AASA's members -- school system leaders hired for their visions of how best to make a difference in children's lives, and who find few ways to connect those *visions* and the daily *actions* of everyone in their schools and community that influence the district's results. Many were currently caught in the middle between the public's desire for strong leaders who can ensure that their community's school system addresses the needs of *all* their children, while at the same time increasingly demanding that the system cut itself apart to better meet the needs of *some*. This paradox-like dilemma seemed to be one factor contributing to superintendents' current 2.8 year life-cycle.

AASA's own logo -- *Leadership for Learning* -- prominently displayed on all of correspondence, made sense, because why else lead schools. So why should it be so hard for school leaders to have visible impact on learning during their watch?

One of the most interesting dimensions of this paradox seemed to be an underlying belief that the school system or district is a major part of “the problem.” Perceptions of this dimension of local schooling as a rigid, unfeeling bureaucracy are so strong that it is virtually impossible, even counter-intuitive, to even think that the school district might also contain “the answer” -- a place to embed the missing framework and scaffolds that could support *sustainable* changes in the ways all of its classrooms and schools operate.

Previous attempts by AASA to view schools and classrooms as part of a bounded, connected system had disclosed another paradox: the only system in American education that is called a “system” -- a school district -- seems to be the one that is most difficult to understand as a system. Many attempts to improve schools had ended up in frustration when people tried to get their hands around something they could not quite get their minds around.

Houston also brought to his new position knowledge from research on effective organizations that had focused on the unique nature of leadership at the superintendent or CEO level. W. Edwards Deming had noted that this leader works *on* the system while everyone else works *in* it. Organizational research had described this unique role as *connector* of the system’s “parts.” But the role of leader-as-connector requires ways to envision where these connections are, or need to be. It requires that a system leader’s vision encompass not only a view of a desired future, but also of the present organization *as a system*. This must include a sense of the whole as a bounded, coherent system, and an understanding of how everything fits within that whole -- how they relate to each other, and to the “whole’s” purposes.

But how does one get support for this “connecting” role if there is little common agreement on what that system is? This seemed to be another paradox constraining effective school leadership.

Apparently something has been missing in the ways we understand schools. For example, “seeing” and understanding how a system’s parts are connected first requires agreement on the boundary of that system. Remember, even the “solutions” produced by the *Blind Men* around the *Elephant*, while right, still were not useful without their additional understanding that the “piece” they had hold of was also part of an elephant.

"Like the proverbial blind men trying to describe an elephant, educators who feel around for a definition of the latest stage in the reform of schools -- restructuring -- see the situation differently."  
*Ann Lewis*  
 Restructuring America's Schools

Something seems to be getting in the way of our seeing education’s “elephant” -- the sustainable boundary of a “system” that contains the minimum capacities required to function as a sustainable whole. Maybe, as with the elephant’s blind men, the problem has more to do with *how* we see it.

Educators are not “blind,” but we have developed individual roles and support for those roles that by necessity have served as *blinders* preventing us from ever being able to deal seriously with the whole. As teachers, principals, superintendents, curriculum specialists, etc., we have had to wear these blinders in order to keep our time and resources focused on our particular part of the “elephant.” Others support these role blinders through separate pre-service preparation programs, separate communication vehicles [magazines, journals, on-line discussions, and, yes, even separate professional associations, like AASA.

Houston shared his views on *the-leader-as-connector* with the author, who at that time was AASA’s Associate Executive Director. The more they probed the paradoxes school leaders face, the more a sense developed in Houston’s mind that AASA, because of the system-leader nature of its membership, had to address the underlying issues that kept them from fulfilling this role. What was needed, Houston proposed, was an initiative that could address a different way of seeing and understanding school systems and then, within this common vision of the “whole,” provide strategies that promoted and took advantage of the new possibilities for collaboration that this would reveal. Houston subsequently initiated planning for a *National Center for Connected Learning (NCCL)* at AASA that could translate these understandings into a sustainable, coherent local system that “joined together...adults and children working toward the same end of higher achievement.”

The purposes of this paper, described below, are to support that planning task. Overall, this paper is intended to raise questions and use the answers to suggest what *must* and *can* be done with resources already available to America's schools. AASA's *National Center for Connected Learning* might then provide a structure to focus and extend that questioning process and translate its "answers" into strategies, processes, and products for use by both policymakers and practitioners as they address conditions that presently reduce their schools' effectiveness.

## B. Purposes & Approach

### Purposes

This paper intends to:

1. Explore the "system" as we *see* and think we *know* it.
2. Propose another way to "see" and "know" it -- an alternative, "out-of-the-box" perspective on the scope and nature of the world in which the processes of *learning*, *teaching* and *schooling* take place. This lens -- ground from the new basic knowledge of human and organizational learning -- challenges many of the paradox-creating assumptions upon which classrooms, schools, and school districts have operated.
3. Provide a strategy for application of this new knowledge to develop within today's schools and communities the capacity to create sustainable changes of the scope, nature, and immediacy required.
4. To explore new system leadership roles (leaders-as-*connectors*) that emerge from this perspective, and which more directly relate the actions of school leaders to the quality of learning results in classrooms.

### Structure

To help make sense of why schools appear to "resist" change, this paper is structured around a number of fundamental, and accepted, paradoxes in schooling -- conditions which, by definition, do not make sense. In fact, the paper itself may seem like a paradox. For some readers it may not make sense that at a time when people desperately seek more practical answers to questions of *What* and *How*, this paper instead asks *Why*? It goes upstream to surface unquestioned assumptions behind what schools do and how they do it.

One reason for this approach was cited by the *Consortium on Productivity in the Schools* in its 1996 report Using What We Have to Get the Schools We Need: A Productivity Focus for American Education. Pointing out that America already knows enough to fundamentally change the ways schools function, they suggested that the problem instead was that our society needed to look at its schools through a *different lens*. "Without a sense of the *whole*, we end up with what has become a familiar cycle of patchwork improvement and disappointment." And one might add, blame.

This paper attempts to provide that "different lens" and then to use it to suggest strategies that aim at the root of many of today's underlying problems. Our premise is that the "missing whole," or system, is the local school district. This now can be supported by both experience and research on complex systems. Unfortunately, this knowledge runs up against a deep bank of personal experiences that prevent most people from believing it. Based upon experiences with the systems of which they have been part (in families, schools, and work settings,) the "system" has become the "enemy." "Beating the system" can be a major source of satisfaction. *Independence* is believed to be the only answer to *dependence* on a system that doesn't seem to understand what

people “on-the-line” must deal with each day. *Interdependence* with the “enemy” is seldom even a consideration.

One consequence of this un verbalized antagonism is that most school systems have been operating with what might be considered two different systems hidden beneath the artificial single structure of the organization chart. One system supports the district’s needs to plan and be accountable for all; the other responds to its needs to act in ways that meet needs of each. Obviously both functions must be accommodated if America’s unique public education system is to survive. But because at present there are few, if any, meaningful connections between them, these two necessary, and interdependent functions compete for resources. Missing is a coherent framework within which one can understand that interdependence and act on it. While processes, such as “visioning,” support understanding there have been few that support continual action. Needed are meaningful connections that can align both components to the same learning purposes.

Fortunately, we live at a time when four new areas of knowledge are emerging from both research and practice that can inform our search for a coherent system. From research comes critical new knowledge about the nature of *learning*, about the nature of the *complex organizations* created when human beings attempt to achieve common purposes; and about the nature of *leadership* in these complex systems. From practice, particularly in business and industry, are coming new experiences with *internal re-connecting processes* that can link the “two systems” noted above into collaborative knowledge-building organizations. AASA’s own experiences with these processes and tools in development projects that supported systemic change has further clarified their relevance for schools.

### Nature, and tone

Dealing with school as systems where everything seems connected to everything else poses a dilemma. How does one describe, discuss, and enhance understandings of situations this complex without increasing the complexity and exacerbating the problem of understanding? How can you communicate with those whose on-going work involves them with addressing needs of all children, and at the same time speak just as meaningfully to those whose daily work responds to needs of specific children? Many times, the communication-facilitating “shorthand” of one is perceived as jargon by the other.

This paper attempts to maintain a tone of confident generality without the turn-off for some of intellectual perfection or the turn-off for others of too much practical detail. We use metaphors throughout to tap into areas of prior knowledge that may not have seemed relevant to schools until now. At times we reduce some complex concepts to what may seem to be mental stick figures. But like stick figures, they are intended to convey a minimum of information but in proper relationship. Instead of footnotes and detailed references, we use sidebar quotations to share insights of many of those whose thoughts this paper builds upon.

In this attempt to stay connected to both those who must implement policies for all and those who continually create practices for each, we may not communicate effectively with either. But this is a chance we must take if those who care about America’s schools are to begin to get both their hands and minds around the problems.

Lewis A. Rhodes  
April, 1997

“The art of seeing the Forest and the Trees. . . lies in seeing through complexity to the underlying structures generating change. . . . it means organizing complexity into a coherent story that illuminates the causes of problems and how they can be remedied in enduring ways. . . . What we most need are ways to know what is important and what is not important, what variables to focus on and which to pay less attention to . . .”

*Peter Senge*

## 2

## PARADOXES IN THE PRESENT PARADIGM

*“What we need when confronting a problem or a predicament is not a 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 on the nature of genuine leadership. “Doing” should follow thinking, even though that thinking may make us uncomfortable because it is riddled with so many paradoxes and dilemmas.”*

Richard Farson  
*Management of the Absurd*  
 1996

## A. Paradoxes (and the questions they raise)

Today’s critics accurately focus their anger at lack of change in the basic workings of schools, but they are completely wrong about the reason. They believe that educators *won’t* change, the sad truth is they *can’t*. With a work setting so fragmented that new knowledge about what really works falls through the “cracks” between isolated practitioners, whatever the organization may learn from its attempts to improve and “change” cannot be sustained.

This is only one of the *paradoxes* -- situations that seem opposed to common sense -- that run throughout education in America today. Most paradoxical of all may be that many of them are not seen as paradoxes, but seem to be accepted as the way schools are supposed to be.

“The opposite of an ordinary fact is a lie.  
 But the opposite of one profound truth  
 may be another profound truth.”

*Neils Bohr*

Outside of education, organizational observers have noted that paradoxes are not problems, but dilemmas that may be masking hidden truths about what is going on. Today’s school leaders are not alone in confronting these fundamental dilemmas. From Einstein on down these experts have pointed out that conditions like these seldom can be solved or managed away from “within-the-box.” They require re-thinking beyond the edge of conventional wisdom. And because the ways we think are shaped by what we believe, they most often require challenging underlying beliefs. Peter Drucker calls this a “*what to do*” dilemma.

“...previously-successful organizations find themselves stagnating and frustrated, in trouble and, often, in a seemingly unmanageable crisis.... And it happens just as often in public sector organizations as businesses.” People blame sluggishness, complacency, arrogance, mammoth bureaucracies. But “the root cause of nearly every one of these crises is not that things are being done poorly. It is not even that the wrong things are being done. Indeed, in most cases, the *right* things are being done -- but fruitlessly.

What accounts for this apparent paradox? The assumptions on which the organization has been built and is being run no longer fit reality. These are the assumptions that shape any organization’s

behavior, dictate its decisions about what to do and what not to do, and define what the organization considers meaningful results. ...They are what I call a company's *theory of the business*."

Peter F. Drucker, "The Theory of the Business"  
Harvard Business Review, September-October 1994

Questioning basic assumptions underlying modern society's ways of organizing and taking effective actions has become a universal survival requirement. But questioning seldom-surfaced assumptions and beliefs is not an accustomed, nor easy response as Charles Handy notes in *The Age of Unreason*:

"We are all the prisoners of our past... "It is hard to think of things except in the way we have always thought of them. But that way solves no problems and seldom changes anything. It is certainly no way to deal with discontinuity. We must accustom ourselves to asking, "Why?" of what already is and, "Why not?" to any possible reframing. It can become a useful game."

As long as education's paradoxes remain unexplored -- i.e., without understanding the assumptions and beliefs upon which the differing views are based -- there is little chance that today's schools can take advantage of the present knowledge and understandings of learning, teaching and effective management that can support practices that do make sense, and which are readily applicable to conditions in American education today.

As Drucker and Handy suggest, making sense of what is happening to, and within, America's schools can begin by questioning paradoxes such as those that follow which have been accepted as part of education. We must ask "Why?"; and then to take advantage of today's available knowledge and tools, begin to explore "Why Not?"

"Information, knowledge, and understanding form a hierarchy. ...Information is *descriptive*; it is contained in answers to questions that begin with such words as *what, which, who, how many, and where*. Knowledge is *instructive*; it is conveyed by answers to *how-to* questions. Understanding is *explanatory*; it is transmitted by answers to *why* questions.

...One can survive without understanding, but not thrive. Without understanding one cannot control causes; only treat effects, suppress symptoms. With understanding one can *design and create the future*."

Russell Ackoff, 1984

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**Paradox: Advocates for "systemic change" in education can't agree on the system they are trying to change.**

"Systemic" changes are those that are then sustained as part of the regular ways a system continues to function. Advocates for these needed changes in the ways schools operate however can't seem to define the operating system in which these changes can be embedded as standard practice. What is the bounded, manageable "system" that can best sustain change? Why can't those within the educational system, or those outside it who most want to change it, seem to find it? Seymour Sarason noted this condition in 1990:

"When you read the myriad of recommendations these commission reports contain, it becomes clear that they are not informed by any conception of a system. That is a charitable assessment. . . . those outside the system with responsibility for articulating a program for reform have nothing resembling a holistic conception of the system they seek to influence."

The Predictable Failure of Educational Reform:  
Can We Change Course Before Its Too Late?

And those within the system seem to fare as poorly. A meeting of national reform projects that met in 1990 to assess their relatively slow progress at meaningful improvement complained that "Everything seems connected to everything else, and little of it to learning." There was general recognition of the need to have a common framework and vocabulary for understanding schools,

but they clearly had little sense of how all those mutually influencing "connections" fit coherently inside of a bounded, manageable system.

Even the US Department of Education conceded in July 1991:

"Agreeing on a set of measures to describe the health of the education system requires broad consensus on how the various pieces of the system fit together. That consensus is elusive and certainly does not exist at present. The greatest obstacle... (is) the lack of agreement on a conceptual model of an optimally functioning education system."

One of the most interesting dimensions of this paradox is that the only system that is called a "system" -- a school district -- seems to be the one that is most difficult to understand as a system.

*Why is there no common understanding of the educational "system" that has provided the organizational frame around the early learning experiences of most Americans?*

***Paradox: Many leaders appear to be doing "right things," but in "wrong ways."***

Today's leaders and managers do many "right things" in ways that make them seem incompetent. *Dilbert's* current popularity seems to support Drucker's observations of leaders who seem to end up doing many things "fruitlessly."

- *Why* are people all across society laughing at *Dilbert's* portrayal of organizational leaders?
- *Why* is there a huge gap between what well-intentioned people mean when they talk about "quality," "organizational transformation," "worker empowerment" -- and what actually happens in the daily work at those same organizations?

*Is there something missing between theory and practice; between developing policies for all and implementing practices for each; between "talking-the-talk" and "walking-the-walk.?"*

***Paradox: The operation is a success, but the doctor dies!***

New ideas, approaches, methods, and tools proved successful in one place tend to disappear when their champions leave. When they are subsequently "disseminated" as models, and "installed" in other settings, they seldom engender system-wide support necessary to take hold. Since the Sputnik era of the 60's this has been a recurring pattern.

- *Why* can't proven better practices be sustained and spread -- and especially in the school system in which they are piloted?
- *Why* can't other schools in other settings learn from them?
- With all the funding that government, foundations, and now the private sector have been putting into teacher development for over thirty years, *why* hasn't anything significantly changed?

*Why can't a system focused on learning ...seem to learn?*

***Paradox: In general, technology in schools is seen as a necessary, end in itself, seldom as a value-enhancing strategic means to enable other changes.***

Technology receives frequent mention in national reform or restructuring reports and initiatives. Most often it is portrayed as an *end* in itself -- one of several needed changes to be brought into

schools that will require a restructuring of that environment to make it “fit.” Yet, strangely, few if any of the national efforts aimed at systemic restructuring of that work setting suggest use of information technologies as strategic tools to help support the realignment and reconnecting of the roles and relationships that are the essence of that new structure.

In fact, schools are the only organized work settings in society where available technologies -- tools that enhance and extend what people can do -- are not applied to:

- increase their “workers” productivity;
  - provide overall organizational value that justifies its costs;
  - enable an operating infrastructure which supports the varied human roles and relationships that contribute to results.
- *Why* does the public expect technology to be applied differently in schools as opposed to other work organizations? For example, why is the availability of technology in schools largely dependent upon gifts, grants, and volunteer help -- and not part of the bottom-line operating infrastructure? *Why* would this be accepted in schools and not, for instance, in hospitals?
  - *Why*, in other organizations, are the tools fundamental to conduct of the core, or primary, work of the organization part of *every* site involved in that work? In education, *why* does this seem to apply more to administrative offices than classrooms?
  - *Why* would teachers be the only professionals in modern society to not welcome and demand tools that can provide them with “the power to be their best?” Teachers have as much, or more, education than peers in other public and private sector institutions; they are driven by a commitment to children that helps them endure conditions that would not be tolerated by other professionals; and many of them are technologically-literate outside the workplace.

*Why wouldn't teachers actively seek out technology as a way to increase their impact on the children whose lives they touch?*

**Paradox: *Modern America has become a feedback-driven society. On a daily basis, policymakers adjust their strategies based upon yesterday's polls; people buy or sell stocks depending upon reports of market trends; modern businesses continually gather data that allows them to “work smarter.”***

***But the continual, daily decisions teachers and other educators make in response to children's needs remain starved for this type of vital, immediate feedback information.***

In other human service work settings feedback of immediate data drives their work processes. The actions of medical personnel for example are determined by their continuing analysis of “vital signs” data. These are compared to established standards for health in order to identify where an individual's problems may exist, and then used to assess the effects of treatments. On-going collection of this vital data takes precedence over the organization's other accountability requirements.

- *Why* should schools be a work setting where the “vital signs” indicating what a student knows, and can do with that knowledge, is not available to the practitioner in time for use in their “treatments?”

- *Why* isn't this critical feedback from the interactions of the instructional process made available for identifying where to focus instruction next, and to continually adjust that instruction based upon actual results?
- *Why* is the gathering and feedback of instructional results driven instead by less frequent requirements for making judgments and comparisons, or determining the accountability of the larger organization?

*What have we assumed about the work of teaching that makes it appear as if teachers do not need continual feedback about the effects of their actions?*

**Paradox:** *Many of the paradoxes that seem to abound in education are not seen as paradoxes... just as the way things are.*

*Why should there be so many paradoxes in American education?*

## **B. Paradigms (and the questions they don't raise)**

Something about the lens through which our society looks at schools contributes to these seeming paradoxes and to a growing sense that something is "wrong." It also makes it difficult to agree on just what that is.

For some today the problem is that schools are doing things "differently," for others that they are still doing things the "same." Some say the problem is that the schools' "products" don't have the skills society needs for a productive workforce (such as teamwork and problem-solving.) Others, see those same skills as barriers to learning the "basic content" of the 3-R's. For some the school is too controlling -- e.g., using grades to compare and punish; for others it is too loose -- unable to enforce discipline.

These disagreements are most disconcerting for some because many elements of America's schools still work well and produce good results. "If it ain't broke," they feel, "don't fix it." On the other hand the public feels overwhelmed by increasing evidence of children lacking skills needed to cope in the modern world, children in distress, and children growing up with values and behaviors that threaten personal and community survival. Out of frustration generated by piecemeal attempts to help those children, some conclude that *radical* change is the only answer. "The old system must be destroyed before it harms more children."

But what and where is that "old system?" Broken or not, something about the lens that society uses to look at and understand schools serves as a blinder to understanding where to focus efforts to create changes that can be sustained.

### The power of the paradigm

In the early 1990's, Kenneth G. Wilson, Nobel Prize winner in physics, and later co-author of Redesigning Education [1994,] was asked by the State of Ohio to study its educational problems. From his "outsider's perspective, he was able to see several significant paradoxes:

"The research that I studied paints a far grimmer picture of United States education than I was aware of.

Firstly, it showed that money alone cannot solve our problems. ...some of the deep problems which afflict financially-strapped inner city schools are also found in Ivy League science departments, as well as in private schools educating the sons and daughters of billionaires. ...these problems include the poor quality of texts and

materials, the fast pace of the curriculum, the hopelessly inadequate advanced planning and preparation for classroom instruction, and inadequate assessment.

But the real shock, for me, was to learn that the problems of educational reform have no known solution, for any price, despite centuries of thought.

...Fortunately, I find the situation in current education can be characterized not as a hopeless mess, but rather as an outdated paradigm of schooling and school reform, just as *Copernicus* found that the earth-centered Ptolemaic model of the solar system was inadequate.”

Wilson’s citing of Copernicus is particularly relevant, for in many ways the accumulating paradoxes within schooling’s present paradigm seem similar to those described by Copernicus in 1543:

“... it is as though an artist were to gather the hands, feet, head and other members for his images from diverse models, each part excellently drawn, but not related to a single body, and since they in no way match each other, the result would be a monster rather than a man.”

As Wilson and Drucker suggest, and Copernicus demonstrated, when something seems wrong with the picture maybe the problem is with the frame. Today these frames, often called paradigms or mental models, have become the subject of increased study because they are a paradox in themselves. They have a powerful influence on actions, yet remain an invisible component of the ways we think. And that is the way it is supposed to be. A paradigm is a lens that allows us to make sense of what we experience seemingly “without thinking.” This lens -- ground from our solid beliefs, and the assumptions that rise out of them -- makes it easier to solve problems in less time. We don’t require “new data” since we automatically draw upon what has been stored in our experience-based beliefs. This valuable short-cut, however, tends to limit us to seeing what we believe and believing what we see.

<p>Civilization advances by extending the number of important operations we can perform . . . without thinking of them.  <i>Alfred North Whitehead</i></p>
--

Copernicus’ “new paradigm” for the solar system was not fully accepted at first because most people’s lives or work did not depend upon it. Without a compelling reason to question fundamental beliefs, they could live with the paradoxes. But imagine, if you will, NASA with all of its present know-how, technology, and personnel trying to operate with the pre-Copernican mental model of the solar system. *They would do everything right, but seldom get where they wanted to go...and they wouldn’t necessarily know why.* There is something about that predicament that feels familiar.

Maybe Wilson and Drucker are right about an out-dated paradigm or “theory of the business” serving as a blinder that prevents this generation from seeing the “system” that has been there all the time. If that is true and, as this paper suggests, the local school district is that fundamental unit for sustainable change, then systemic improvements would not have to wait until a “new” system is built. They could start with the system’s components already in place, but not systemically connected. Increasing that system’s capacity would initially involve understanding, creating, and sustaining connections so that a dysfunctional system could become functional.

### C. Defining the School System

But to start we would still have to “see” the elements of the system that is already in place, but in a different way. Copernicus, as we know, addressed this problem by using new scientific knowledge to question deeply-held, seldom-questioned beliefs that had developed from what preceding generations had directly seen and experienced. The most critical of these beliefs dealt with what was at the system’s *center*. Accepting this as the sun rather than the earth determined the

fundamental scope of what now would be understood as a *solar* system. This determined the outer limits of the system itself -- the boundary of the new paradigm, or mental model for understanding.

This newly framed lens, with the sun as it's reference point, then made it possible to see *different relationships* among its elements. These were relationships that had been there all along, and which had in fact been contributing to some of the paradoxes people had observed and accepted as just the way the universe was.

Similarly today, an understanding of the *system* that is already in place requires that we determine its *scope* (the sustainable boundary of all the elements that connect to its "center"), its *nature* (how it functions as a system) and its *essential properties* (what it can do as a system that its parts cannot.) How would elements that are already there appear to us if the system's center was now understood as *learning*, not teaching?

Understanding the scope, nature, and essential properties of the fundamental core of schooling's learning-teaching system would seem essential knowledge for those today attempting to "scale-up" and sustain effective educational changes. But, as noted earlier, gaining agreement on what we can "see" before us has not been easy to come by. Two metaphors may help illustrate why it has been so hard to develop this key knowledge.

### Elephants and Automobiles

As noted earlier, the *Blind Men and The Elephant* metaphor portrays how individuals in touch with different parts of a system could fail to reach agreement on its "scope." In that parable, it is clear how an outer boundary serves to define the fundamental unit they must address *if* they want something from that system.

But just understanding the "boundary" of the sustainable system would not be sufficient if, for example, they also had to determine how to help it grow new capacities, or to convince it to move to a different place. Now, just understanding the scope of the problem (Its an elephant, stupid!) would not be enough. They would also have to understand its essential nature.

<p>"...And so these men of Indostan Disputed loud and long, Each in his own opinion Exceeding stiff and strong, Though each was partly in the right, They all were in the wrong!"</p> <p style="text-align: right;"><i>The Parable of The Blind Men &amp; The Elephant</i></p>
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They would have to *believe* that each of the parts they touched were *interconnected*. Even if they weren't quite sure how, they would have to believe that for the whole elephant to move or grow, all of its "parts" would in some way have to be involved.

According to Russell Ackoff, these two elements -- *scope* and *nature* -- contribute to a system's "*essential properties*."

"...the essential properties that define any system are properties of the whole which none of the parts have. For example, the essential property of an automobile is that it can take you from one place to another. No single part of an automobile--a wheel, an axle, a carburetor--can do that. Once we take a system apart, it loses that fundamental characteristic. If we were to disassemble a car, even if we kept every single piece, we would no longer have a car.

Why? *Because the automobile is not the sum of its parts, it is the product of its interactions.*"

### The School District's Essential Properties

So, too, in our search for the system, the first question to be explored must be -- what are the essential properties of a single, coherent *learning-centered* school district that none of its parts can effectively duplicate? Where, as a product of its *internal interactions*, can a school system “take us” that none of its parts can?

The answers we propose in the following pages have their roots in one place -- the single drive that brings most educators into public education in the first place; and which then frequently contributes to the frustration that drives them out. That purpose: to make a difference in the life of a child. That seems “simple,” but unfortunately, what we strive to accomplish for *each* takes on a different dimension when we must also do it for *every*. Now we must be able to ensure that every child has an equal opportunity to be all that he or she can be.

That two-faceted, *single* purpose -- to provide for both equity and excellence -- is the foundation of American public education. Yet it has become increasingly impossible for isolated educators working in fragmented systems to deal with it as anything but an either-or proposition.

We propose that the capacity to provide for both *equity* and *excellence* is the essential property of the school district or system. This school *system* and local *community* is the minimum unit in which that capacity can be created and sustained in today’s society. We also suggest that the present ways we have for understanding that system make it impossible to create and sustain that capacity.

\* \* \*

To understand *why* requires that we probe more deeply the paradox that the only system that is called a “system” -- a school district -- is the one that has been most difficult to understand as a system. In the next section we explore some of the factors contributing to that difficulty, and describe their present consequences for the internal connectedness required to support both equity and excellence.

### 3

#### THE “PRESENT” PARADIGM

*“It is tempting to think up futures  
that don’t require getting there from here.”*

Harlan Cleveland

For people who work in the present, futures that don’t start from “here” soon lose their power as focal points for change. For this practical reason, therefore, we must begin with a better understanding of what we tend to see through the lens presently used for understanding the work of schools.

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#### A. Two Systems?

Why has it been so hard to make sense of school districts as single, sustainable systems that can achieve both equity and excellence? Why would a school district appear not to be a system to those who have are its veterans and victims? More importantly, why would a system of well-intentioned people not act as a coherent, collaborative system?

Anyone who has worked in schools has directly experienced it as a system. *Everything seemed connected to everything else* whenever we tried to accomplish something related to common purposes. One’s own good intentions always seemed to get entangled with other people’s. Also, for some educators, dealing with the “system” that contained their work most often has been a negative experience. They many times fight against it, and frequently have to pretend it’s not really there in order to feel some sense of control over their lives.

At one level, then, everyone already senses there is a system there. But when they try to get their hands and minds around it, they, instead, usually find *two* relatively disconnected “systems.” There can be a number of reasons for this perception.

#### *Caught in a Cognitive Catch 22*

Cognitive sciences have contributed much to understanding how our own minds work, and why they sometimes don’t. But at times, the mind’s ways of perceiving hamper our search to make sense of our experiences. Our minds have trouble focusing on “ground and field,” or “content” and “context” simultaneously. In that famous puzzle, we see either the vase or the two faces -- it’s hard to see both at the same time. For situations like this, quantum physicists have had to develop a principle of *complementarity* or *duality* to handle “either-or” situations. They apply this, for example, to studies of light which sometimes acts as if it were composed of particles, other times as waves. The duality principle allows them to deal with an “either-or” situation as a “both-and” condition. Communities and their schools need a similar framework for understanding the *both/and* nature of the school system’s essential *equity-excellence* role.

In schools this duality condition appears as a problem when we try to look at *people* and/or the *processes* that connect them. When we see the work organization only as collections of individual objects or parts then we focus on them, try to fix them, make them work harder, do more. When we see, instead, the work organization as connected parts [people] then we focus on the nature of the connections -- e.g., do they align everything to common results? Do they support open exchange among parts?

Process and content are inseparable. ...The separation between the issues we are interested in and the processes we might use to learn about them may be the primary obstacle to potential breakthroughs."

"Creating Quality Communities",  
Peter Senge -Executive Excellence, June 94

Clearly, we need a framework for understanding the *both/and* nature of the school system. We need to be able to see both people and processes in schooling, and in particular how to use the latter to empower the former in accomplishing the school's purposes.

### Working Alone, Together

The *either-or* nature of present school structures may be a natural consequence of trying to address American education's *each and every* imperative in a disconnected workplace. Other organizations have been able to connect effectively similar internal functions, but they have not had to overcome three accepted gaps that effectively isolate people who share a common bond of wanting to make a difference in the lives of children -- gaps of *purpose*, *space*, and *time*

*Purpose:* Teacher's and administrator's daily actions are disconnected from their intended common purposes. This leads to great variation in the mental models or visions which give meaning to what they do each day. As in the tale of *The Blind Men and the Elephant*, the piece one holds (and is held accountable for) soon becomes an end in itself.

*Space:* People are physically disconnected from each other while doing their work -- one teacher to a classroom, one principal to a building, one superintendent to a district.

*Time:* And people's work is disconnected in time from those whose prior decisions influence it, and whose later decisions could be influenced by it.

Understanding the nature and relationships among these three "disconnects" takes on critical importance today. First, they are key to new, vitally needed strategies that can support a system's capacity to function as a system; and second, they now can be bridged effectively. Processes and tools used by other organizations in society to overcome those same challenges can be used to address these same conditions in America's schools.

But for schools until recently these gaps have seemed unbridgeable. They have, in fact, become part of the "givens" that shape the mental workplaces in which the long-term and short-term policies and practices of schooling are created. They are assumed as part of the way schools *are* and are *supposed to be*. One unwitting result has been the continued development of reform strategies and practices that reinforce this disconnectedness and sub-optimize the capacity of the system to act *as* a coherent system.

### Forests and Trees

Schools are not the only organizations in which it seems that people who *plan*, and people who *do*, end up operating as if they inhabit two different "worlds." One world develops and implements equitable policies for all, while the other develops ways to implement those policies through practices that meet the needs of each. In reality of course these are not two separate worlds,

and that artificial separation becomes a major problem. Unique perspectives on the same world cannot be shared nor meaningfully inform each other’s decisions.

Pretend, for the purpose of understanding the nature of this problem, that the world of schooling really did involve two fundamentally different roles for its people -- “*Planners*” and “*Doers*.” Although we know that, as cognitive beings, everyone’s work actually includes both functions, the role assignment here is determined by the time frame that drives and influences the required work.

For example, *Doers* include all those whose actions are determined largely *in-the-moment*, and in *response* to a preceding event. They are swept along in a continuous flow of time that cannot be stopped or effectively modified. Schools’ custodial obligations set their daily, weekly and yearly boundaries. Due to the effect of this constrained time-frame, their “decisions” might more appropriately be thought of as “choices” among options available at the time. These choices are influenced by their prior experiences, personal assumptions and expectations, their perspective on the situation, and readily accessible resources. When these *Doers* have time for planning, they find it most productive when it happens soon after the “doing” while they still can recall what they learned from those actions.

If school systems were forests, we might think of *Doers* as people whose “doing” takes care of individual *trees*, while the *Planner’s* “doing” involves anticipating and responding to the needs of the *forest* as a whole. Since almost all the *Planners’* decisions influence the forest and the trees, the time frame driving that work must allow for more reasoned consideration supported by access to the broadest range of relevant understanding and expertise.

In this bipolar conception of the world, the concepts of responsibility and accountability become tangled. To better understand the nature of their interdependence it may be helpful to look at present accountability in these “two systems.”

<u>“PLANNERS” accountable for:</u>	<u>“DOERS” accountable for:</u>
Curriculum _____	Instruction _____
Forest ( <i>All</i> ) _____	Trees ( <i>Each</i> ) _____
Doing things right _____ ( <i>Efficiency</i> )	Doing the right things _____ ( <i>Effectiveness</i> )
Quantity _____	Quality _____
<i>Just-in-Case</i> resources _____	<i>Just-in-time</i> responsiveness _____
Equal opportunity _____	Equal access _____
Explicit knowledge base _____	Tacit knowledge base _____
Problem anticipation _____	Problem solving _____
Identifying criteria for “ends” of instructional process ( <i>Standards</i> ) _____	Identifying criteria for beginning ( <i>Student needs</i> ) _____

In the listing above, each remains accountable for specific results. But note that *power and control* in each “world” is relatively meaningless since, in actuality, each remains relatively powerless to affect the system’s results as long as they remain disconnected from each other.

The reason: the nature of work of one “system” exists to support the nature of the work of the other. One has responsibility for efficient use of resources to support the other’s response-ability for addressing individual student needs. Although *accountable* for different resources, both are *responsible* for the school system’s results.

As we may see, *Planners* have a major responsibility for identifying ends - e.g., standards, outcomes, goals - which logically, they believe, should give meaning and direction to the work of the *Doers*. But *Planners* are not accountable for those ends; their accountability is for the inputs that support the attainment of those ends.

The *Doers*, on the other hand, while sharing responsibility for shaping the general framework of purpose provided by the planners, have no choice but to start each of their steps towards those directions from where they are now. Because decisions they make get their meaning and direction from *in-the-moment*, real time, real place experiences that produce (or don’t produce) results, their accountability is for responding appropriately to the requirements of the reality before them.

In many schools the inability to connect these two worlds is most evident in “Curriculum” and “Instruction.” Curriculum starts with the “ends” of the process--what the student *should* know. Instruction starts with the “beginning”--what the student *already* knows. Seldom do they connect as part of schools’ everyday work process. Yet the continuing quality of school’s results depends upon the effectiveness of that interaction.

With the above accountabilities serving as criteria for decisions in each “world,” the reasons behind many current problem-solving behaviors become clearer. *Planners* work largely in an environment of fixed resources -- (i.e., fixed budgets, policies, organizational structures.) With these inputs to their work serving as “constants,” outcomes become their “variables” (e.g., they accept “normal curves.”) In this largely quantitative world, scientific management seems to make sense -- command and control, management-by-objectives, solving problems by reductionist analysis of its parts, etc.

For the *Doers* on the other hand, the organization’s actual outputs -- i.e., the emerging capacities of the students before them -- are their “constants;” the organization’s inputs are their “variables,” as they search inside and outside “the system” for resources to help them respond appropriately. (This may be why so many effective teachers are considered “scrounges,” and why principals frequently have to go “outside the system” to get something done.) Their world is qualitative by nature -- i.e., dealing with interactive relationships and the continual plotting of new, strategic pathways to their ends.

These different problem-solving behaviors of the “two systems” remain before us, standing in the way of believing that they might be able to interact as part of a single, coherent system. This perceptual problem then is compounded by the ways we draw the paper “maps” on which we attempt to navigate through the overall problems of the system as a whole. Here, regardless of what we think and believe, we draw it as if it were a single system.

- *The Pyramid Paradigm Paradox*

The pyramid-like organization chart has become an almost universally accepted way of portraying an organization as a seemingly-connected single system. It serves as a world map, paradigm or prevailing mental model, for most organizations. Unfortunately, it masks the fundamental differences in the nature and requirements of the interdependent work that must take place in it. One of the most destructive effects has been its contribution to the erroneous metaphor that organizations have “tops” and “bottoms.”

This latter perception has serious consequences. First, change has been seen as either a *top-down* or a *bottom-up* endeavor. Second, it has come to suggest the relative importance of people’s

individual roles and decisions within the organization. On paper that appears to make sense because the higher on the organization's pyramid-based chart of responsibilities, the more resources each decision-maker affects. Unfortunately, this apparently rational model does not make intuitive sense in terms of all of the actual relationships between people's interdependent roles within the system and between the system and its ultimate customers.

This representation of "importance," based on the *quantity* of resources one controls, creates a paradox for those working in the organization, especially at the pyramid's "bottom." There, it has always been difficult to reconcile this "positioning" with the sense that -- for the customer/client/recipient/user of the organization's services or products -- the most important decisions are made at their "end" by the persons with whom the user/client/customer interacts -- e.g., the teacher, nurse, doctor, clerk, etc. The *quality* of results emerges largely from that final interaction. In recent years, W. Edwards Deming's efforts to have management understand its work system through the eyes of these "customers" (who only experience the total organization's effects) has helped make this gut-level awareness even more evident.

From that perspective, it is now easier to see why decisions that affect the *quality* of results are most often made at that final point of interaction. The individual actions of the *last* worker on the line, or in the chain of command, encapsulate all the work and decisions of everyone -- practitioners, policy makers and decision-makers-- "above" them. In industry they describe this worker's interactions with the "product" as the "*moment-of-truth*." The more frequent the informed interaction between that last "worker" and the results wanted, the greater chance that the final "product" will be closer to what is needed. And that's the primary definition of "quality" -- appropriateness to needs or requirements.

To visually suggest what they intuitively know, some have tried to turn the pyramid over. But, beyond making that point, this hasn't proved helpful as an organizational plot board for managing a system of interdependent decision-makers. Nor has it helped resolve the pyramid paradigm's *empowerment* paradox in schools: Those (at its "bottom") with the most power to have direct, immediate effects on children, think they have the least; while those (at its "top") with the least influence on what happens to children each day, are thought to have the most.

- *Teacher vs. Teaching: The Person-Process Paradox*

The conditions described in this section so far prevent us from considering a possibility that seems almost counter-intuitive. When our view includes both the people and the processes necessary for sustaining quality schools for America's children, we begin to see that the school system, not the teacher, is accountable for teaching as a process. Until now, because of the "disconnects" in the system that made it hard to take interdependence seriously, we have had to deal with *teacher*, the person, as if he or she were also *teaching*, the process.

It is obvious that the quality of teaching -- as a process formed around interaction with students -- is dependent upon a multitude of factors outside the direct control of the teacher. However, without effective ways to involve those whose decisions most directly influence the outcomes of that process so that responsibility is shared, the "teacher" has been equated with the whole "teaching" process. Accountability is focused on a single

person who lacks complete resources to fulfill it. In no other professional work setting is this acceptable. How did it get that way in schools?

"By itself, specialized knowledge does not yield performance. The surgeon is not effective unless there is a diagnosis--which, by and large, is not the surgeon's task and not even within the surgeon's competence. As a loner in his or her research and writing, the historian can be very effective. But to educate students, a great many other specialists have to contribute--people whose specialty may be literature, or mathematics, or other areas of history. And this requires that the specialist have access to an organization. ...

In the knowledge society it is not the individual who performs. The individual is a cost center rather than a performance center. It is the organization that performs."

Peter Drucker,  
The Age of Social Transformation, . .  
Atlantic November 1994

As a process intended to develop children's learning, teaching has always required effective integration of two critically-linked teaching roles. In one, the teacher serves as a source of information (*sage on the stage*,) and in the other, as a manager of experiences that can motivate a child to integrate the information with what they knew before (*guide on the side*.) In this way, effective teachers have always managed a flow of events and resources that could allow a child to develop his or her learning capacities from their on-going experiences. Or at least they tried.

Imagine that we could return to the one-room schoolhouse where we would see that the *system* and the *classroom* were the same. In this organizational "system" teachers responded to children's individual *just-in-time* learning requirements by managing the *just-in-case* elements society provided (time, space, materials, etc.) Here, it appeared as if *teachers* and "the system of *teaching*" (the organization and continual management of resources to support learning) were one and the same.

But then as the "system" grew from the single classroom to school building, and then school district, it seemed logical to move some of teaching's "management" responsibilities out of the immediate classroom. Teachers were left to deliver "information," but with few ways, beyond intuition, to ensure that the delivery's timing and appropriateness matched the child's needs.

Decisions affecting the manageability of the learning environment now were being made elsewhere, but they had lost their interdependent connection to the teacher's need to be responsive to each child. The scope of the teaching system had changed, but its nature had not. These external "management" decisions still were "teaching" decisions. They needed to be aligned to the same classroom purposes, and needed to support responsiveness to appropriate individual learning needs.

When the critical links between these two *teaching* roles were broken, teachers began to find themselves held accountable for results over which they had little control. They were expected to be managers of learning, but with none of the organizational support provided to managers of any other of society's institutions. Productivity tools such as computers and telephones were placed in administrators offices, not teachers. As long as teaching was understood as an isolated, individual act focused on the delivery of information they were stuck. They knew it, and felt it. But they did not quite understand what they could do about it.

Among the present-day consequences:

- With teacher-as-cause-of-learning, only one teaching role -- making information accessible -- received systematic and systemic support. There were few resources to support more critical dimensions of the teaching process, not involved in information presentation. Here, for example, teachers required access to continual information feedback that could enable them to maintain focus on, and connection with, the child whose learning they were helping to develop.

<p>"Teaching is impossible, yet teachers teach. Expected to give individual attention to <u>each</u> child, the teacher knows that it can't be done,"  <i>Ex-Superintendent Larry Cuban.</i></p>
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- If someone had to be held accountable for *teaching's* results, it must be the *teacher*. Yet student learning was the outcome of a process with critical interrelated and interdependent elements for which only the *system* really could be accountable.

- To "fix" teaching, schools were limited to "fixing" teachers. Teacher-fixing became the major thrust of never-ending staff development activities because it had to be repeated every time a "fixed" teacher or staff member moved to another responsibility.

- School system actions that were not *direct* services to children were not considered by the public as priorities for schools funds. Therefore comparatively little effort could be devoted to fixing processes outside the classroom that might support teachers' complex classroom roles, and

which could provide scaffolds to support them as they grew into these roles regardless of their initial competencies.

- Most critically, the *essential property* of the school system -- the capacity to simultaneously address the needs of *each* and *every* -- could not be sustained.

## B. Solomon's wisdom

All these conditions contribute to 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 some 30 years ago when John Goodlad popularized the idea of the school building as the fundamental unit of change. It made sense, and still does, since a building provides the observable, physical space where the manageable elements of schooling must come together in ways that will influence the core physical unit of change -- the classroom and the learning of children within it. 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? As Goodlad himself acknowledges, a pervasive sameness can be observed across most of America's schools.

It has taken several decades to begin to discover a complementary truth -- if we want *permanent* change, then the school system or district that supports the buildings must *concurrently* change. Only at this level can new relationships be framed and supported so that individual parts of the system can interact functionally, learning from and contributing to each other as they simultaneously address their individual and school objectives.

Accepting this as a "truth" however seems to run counter to both experience-based intuition and the present culture. Acceptance would require possibly different *beliefs* about the nature of people and the scope of organizations that shape their work in schools.

What has been missing is the underlying wisdom of *King Solomon*. Unlike many present day authorities who tell educators they have no choice but to destroy "the system" before it destroys them, Solomon knew that, if cut in two, a connected system of interdependent parts would die. (And importantly he also knew that least one mother did, too.)

Lacking this degree of common wisdom (based upon belief plus experience) about the fundamental connected nature of systems, today's attempts at systemic improvement are largely based on recommendations to break the "system" apart and deal with it in more "controllable" pieces (e.g., charter schools, site-based-management.) This may be why they all have failed when measured by *King Solomon's* standard --i.e., the organism (or organization's) sustained viability to continue to function *as* a system.

Accepting that, like *Solomon's* living baby, there is a system *already in place* becomes a critical prerequisite for any attempts to understand and then enhance the capacities of individuals working to accomplish mutual purposes in this setting. Re-framing an organizational system such as a school district by understanding how its components "fit" around those core beliefs can become a powerful "map" for problem-solving. Resources unnoticed before suddenly can become credible; relationships unseen can become viable.

The possibilities this could unleash for "using what we have to get the schools we need" make it worthwhile to look at what we *know* with greater certainty now about the nature and scope of the school system and the people in it that differs from what we thought before.

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In the next section we explore this new knowledge and its potential for use as a new belief-based lens or paradigm for understanding and operating schools.

## 4

## THE “NEW” PARADIGM

*“Education is organic. It is fluid. It lives and breathes because, of all the aspects of our existence, it is perhaps the most human and the most dependent upon humans to carry out. Those acting and those acted upon are human. ... It takes our behaving in connected ways.”*

Paul Houston  
Executive Director, AASA

## A. A Single Lens

Education, as a field of applied knowledge, has always stood on a weak foundation of basic science. In some ways we have been like primitive tribal doctors who had to heal people without the benefit of knowing how things really work inside the body. Unable to actually see what happens inside a brain, learning and teaching theories had to rely on the intuition of those who directly interacted with children as they learned.

“Education is the kindling of a flame,  
not the filling of a vessel”

*Socrates*

Today however we have a growing scientific base derived from what computer-based brain imaging technologies (PET and CAT scans, MRI, etc.) have contributed to neuroscience and cognitive research. Interestingly it confirms much of what experience-based theorists have been saying about learning all along. One of the unique powers of the “new” knowledge about the brain is that, at some level of intuition, it is “old” knowledge. It relates to what many educators “know” is the right thing to do.

But new insights about learning are not all that the computer has contributed to our current understanding of schools. Just as this technology made it possible to see previously hidden cause and effect relationships within the human mind as it learns, so too has it contributed to our understanding of previously invisible cause and effect relationships in the behavior of organizations. Relationships among events within organizations had been masked by the elapsed time between them. But with the computer’s capacity to speed up and compress time, patterns and directions began to become visible. We have begun to “see” and understand the complex influences on what might heretofore have seemed simple cause and effect behaviors.

Out of this body of developing research has come a better understanding of what happens when human beings come together to accomplish common purposes as a bounded, formal organization. These insights suggest a linkage between the usually separate domains of learning, instruction and organizational management. New evidence about the nature of the work of everyone in schools -- students, teachers, administrators -- suggest that there are common principles in each that can be linked within a single system perspective.

- **Learning:** The model emerging from the cognitive and neurosciences usually makes total sense to those whose jobs place them close to learners. In fact, repeated personal teaching experience over centuries have produced similar concepts--but only as *theories*, such as those of Dewey, Piaget, and Bruner. Today however, research on human learning made possible by brain

imaging technologies is doing for those theories what Galileo's telescope did for Copernicus' theory. "What has been seen..." Galileo is reported as saying, "cannot be unseen."

What these technologies reveal about brain functioning provides information that cannot be ignored without accepting the consequences. Parents, communities, and schools no longer have the luxury of dealing with learning as a theory or "possibility." Like breathing, learning is a built-in, on-going process. All children *do* learn -- it is a life process, not a choice. Although often addressed as an outside-in, "filling-up-the-mind" process, learning actually turns out to be an *inside-out* process that develops the mind's capacities to determine a person's subsequent actions.

"...(a passion for learning) isn't something you have to inspire them with; it's something you have to keep from extinguishing. Human beings are by nature passionate, curious, intrigued. We are by nature theorists. We seek to connect, find patterns, make sense of things. We wouldn't last our first two years if we weren't that way. Unfortunately, kids stop expecting school to be a place where they use their curiosity and theoretical abilities. They think of school as a place to find out what someone wants from you or how to appear to conform. That's true of our successful students and our failures both."  
*Deborah Meier*

Unfortunately this idea runs counter to general perceptions, at least of how learning *should* occur in schools -- i.e., it presents learning as a natural activity, largely influenced by learners themselves and the interactions they have with others. They are directly involved in the work of personally constructing knowledge from the inside, instead of just taking it in from the outside. As an example, from birth on, humans seek "meaning" out of the challenges they confront-- trying simultaneously to understand both the world and their place in it. From their interactions with the surrounding environment they take in information, connect it to what they already know or can do, and construct new knowledge and skills. These new capacities then are tested through continuing interactions -- each time increasing that individual's capacity to act intelligently in solving the problems of survival.

Accepting the general nature of this learning process as "fact" rather than "theory" is as important to schools' functioning as accepting the fact of the sun as the center of the solar system would be to NASA. All of an organization's work is shaped by that central belief, not just the work of those in the space vehicle (in NASA's case), or in the classroom (in the school's.) These fundamental beliefs ultimately determine the scope and nature of the bounded system framing the interconnected ways all of the organization's work is done.

Acceptance of the nature of learning as a fundamental belief -- a *fact-of-life* -- would have major implications for several of the current paradoxes. For example, if society wanted children to learn most effectively, then instructional processes would have to start at a different place -- i.e., with current information about what children already know, and with information about the ways that they already have in place for learning more, including information about each student's perceptual or learning style. Schools would need to use "testing" more as a diagnostic tool at the beginning and during instruction rather than at the end. With a need not just to *judge* success, but to *ensure* it teachers would require access to continuing feedback from the instructional process. Here, technology could play critical new strategic roles enabling and supporting the interactive roles that only teachers can fulfill.

With assessment now playing a *functional* role in the on-going instructional process, it would be seen as less burdensome, could be more frequent, and would actually develop better data for eventual aggregation and use by others in the system. For example, increased frequency of measures could show capacity-development over time. Single visible acts, or snapshots of performance, may only indicate what an individual knows -- i.e., has learned -- at that point in time. But being able to act consistently over time in different conditions is an indicator that a capacity exists that can be used in the future.

If this learning-driven use of information seems a "futuristic" dream -- impossible to organize, manage, and convince society that it should support -- remember that the model already exists in

other human service organizations. “Testing” results are used diagnostically in hospitals because society (both practitioners and the general public whose mental models reinforce public policies) already *believes*, and therefore accepts, certain facts-of-life about the processes of the human body which, like learning, are already functioning. Because of these beliefs, hospitals’ choices cannot include operating as if everyone of the same age has the same heart rate or should have the same “treatments.”

- **Teaching:** The model of teaching emerging from new understandings of how learning happens is not really new. For centuries, many teachers whose experiences put them in daily contact with the truth of the above learning model have attempted to respond to it. As they did this, they began to understand their relationship to student’s learning. Learning seemed to be the end result of countless personal *interactions* between a teacher and students, collectively and individually. To support those interactions, a teacher’s intuition, sensitivity to children, and ability to meet the idiosyncratic needs of each child become as important as the teacher’s grasp of subject matter.

The problem until now has been that while many teachers have known that this was the essence of “teaching” for “learning,” it seldom has been possible to align and connect the rest of the organization to support the complex real-time requirements of this core, interactive work process. As isolated practitioners, teachers had to rely on their own personal store of experience and expertise as they faced constantly changing needs and requirements.

- **Organizational Management:** In business and industry the nature of the “worksite” has shifted. It now is understood to exist in the mental processes of every member of the organization. Former Secretary of Labor, Robert Reich states it clearly -- “*As a leader, your most precious possession is the people you have . . . and what they carry around in their heads.*”

Reich’s observation characterizes a fundamental shift in understanding the nature of the workplace --private or public sector. It underlies many of the management theories of Drucker, Deming, Juran, Senge and other visionaries who have tried to provide guidance to America’s organizations. At the center of this major paradigm shift, or different way of viewing organizations, is that the nature of work is *learning*, and management’s job is to provide work situations and structures where workers can learn from their work and apply those learnings to continual development of their own, and their organization’s, capacity.

<p>“We can’t afford to hire just hands... we hire <i>heads</i>. ...what they do with their hands easily follows.” Bill Gray, Harley-Davidson</p>
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In effect, outside of schools, workers are treated as *learners*, and managers have become *teachers* -- people who create and sustain settings where others can learn from their work. Operating from that belief, *World Class* organizations structure themselves around a core-work process that supports an iterative process of informed interaction between caring workers and their “product.” This ensures that outcomes and results are continually appropriate to the needs or requirements to which they respond.

- **Leadership:** The emerging view of organizations as “connected learners” whose knowledge develops from the purposeful interactions of their work has made it possible to understand the critical, and unique, *connecting* role played by the system leader -- the CEO or, in the case of schools, the superintendent.

This special role has been noted by those with broad views of the requirements of organizational leadership. Deming maintained that this was the person who worked “on” the system, while everyone else worked within it. Part of working on the system meant dealing with the “white spaces” between the boxes on the traditional organizational chart. Drucker refers to this person’s tasks as the “management of relationships.” Ackoff takes this further as the

“management of interactions.” More recently, Margaret Wheatley, author of *Leadership and the New Science*, noted that requirements of this role may actually derive from a consistent principle of order in nature.

“Power in organizations is the capacity generated by relationships. Look carefully at how a workplace organizes its relationships; not its tasks, functions and hierarchies, but the patterns of relationships, and the capacities they form.”

*Peter Drucker*

“Order [in the physical universe as well as organizations] comes from simple rules of connection . . . not pre-ordained structures.” . . . “We live in a world which . . . at the level of individuals, is built on the *autonomous* behavior of individuals. Those autonomous individuals do their best work when they are connected to other individuals -- when they create a collective mind through their interactions. We create from that richness of relationships.”

Working on the system, as Deming suggested, requires ways to understand the processes that hold it together and connect its parts to common purpose. But sometimes understanding is not enough. Deming also cautioned that there had to be a “method” to act on what was seen.

Unfortunately, there have been few methods available to the CEO/system leader to help her/him understand, create, maintain, and continually refine the interdependent relationships that bridge roles individuals within the organization must play to fulfill their common vision. Yet system leaders are held accountable for the results their “system” produces. Processes such as strategic planning contribute to understanding; other processes such as quality management may contribute to partial improvements. But the nature of the system leader’s job requires that their *total* organizational vision must connect with their total organization’s specific results . . . every day.

“Vision without action is merely a dream.  
Action without vision just passes time.  
Vision with action can change the world.”

*Joel Barker*

Because of the ways we have viewed and thought about organizations, “middle management has not provided a functional “middle” between the organization’s vision and its actions, between its leaders “talking-the-talk” and “walking-the-walk.” At this level of systemic leadership, vision without meaningful, equally-systemic ways to act on it turns out to be counter productive both for the organization and (especially in the case of schools) for the leader’s survival. They have to act, and in ways they “hope” will have systemic effects. It does little good to tell leaders to be “servants,” to give up “command and control,” and to focus on installing or facilitating a new “culture.” Accountable human beings still must have some ability to influence the outcomes of their actions. System leaders are still held accountable for the system’s results. That accountability means that system leadership will always have a “command and control” dimension -- but the significant difference today is that what is being “controlled” has changed.

Until now, to remain accountable, leaders decisions allocated and organized *tangible* resources - - people, space, time and materials -- required to address the organization’s problems. This no longer works in the dynamic environments in which schools, and other organizations, work today. Their decisions now must focus on allocating and organizing *intangible* resources -- trust, information, and creation of new knowledge -- required for those closer to problems to more responsively allocate and organize the tangible resources required to address them.

To support leaders’ transition to these system facilitating roles requires new tools and processes that can create and maintain a functional, connecting, “middle.” System leaders will require means to maintain here-and-now interactions with the everyday work of the system. She/he must be able to deal with problems of alignment, connecting, managing interactions (rather than actions) among staff, and continually improving their system’s capacities -- all as part of work. Here is where new knowledge about information technologies comes

“The most powerful kind of leadership is to offer people pathways and permissions to do things they want to do but feel unable to do for themselves. That sort of leadership evokes energies within people that far exceed the powers of coercion.”

*Parker Palmer, Change, Nov./Dec. 1993*

into play.

- **Technology:** Beliefs and assumptions about technology and its roles in organizations and society have also been shifting. In terms of information technology, many of us have been like McLuhan's fish who were not aware of the "water" that provided their total sustaining environment. As the first generation to deal with many of these tools, we have concentrated on what "they" did, rather than on their consequences for what "we" do, or really wanted to do.

Nevertheless, those who have been observing information technology's larger effects have an emerging understanding that, as "Wired" magazine's editor, Kevin Kelly noted, "when technology 'works' it enhances the value of people. These are relationship technologies that encourage and advance relationships among individuals."

Technology -- as a *relational* tool -- can effect the nature and quality of relationships between and among people who have common purposes, interests and needs. Already, in business and industry, this concept of technology use has led to the rapid demand for *Intranets* that enable organizations to organize and manage better by:

- connecting more sources and users so they have more comprehensive and up-to-date information, and in more detail.

- facilitating knowledge development and exchange so that experience transforms data into knowledge, and then organizational wisdom.

- enabling problem-focused networks that can shorten solution response time by linking those with relevant and current expertise and experience.

- facilitating coordinated activity by providing a common base of data and knowledge that can allow individuals to operate from a shared mental model.

"...the era of the stand alone computer is over... we're in a communication revolution now that focuses on connections, not crunching."

Kevin Kelly  
Wired

## B. Possibilities

The possibility that America's schools can now operate within a coherent systemic framework is enhanced by two characteristics of the new knowledge base:

- (1) It is a way of *thinking* and *believing* more than a way of *doing*.
- (2) It grows out of the ways we understand and perceive *learning* -- the human process in children and in adults around which schools and their processes are structured.

With new views of the human mind's inner workings, we now know that:

- Knowledge is *constructed* from the inside, not just "inserted" by external sources.
- Starting in the womb and continuing throughout the life span, children and adults seek *meaning* out of the *challenges* they confront.
- They strive simultaneously to understand the world and themselves from their *interactions* with the surrounding environment.

- They take in information and *connect it to what they already know* as they construct new knowledge and skills.
- By testing these *new capacities* through continuing interaction, they increase their ability to act intelligently and solve problems.

Because the exciting potentials of this new knowledge for children, and their commitment, educators have naturally been attempting to apply it first to children's learning needs. To reach the minds of adults, they are relying on traditional methods such as research, demonstration and teacher training -- methods that over the years have been able to produce changes for some, but seldom for all. Today however, the changes required to support the use of this new knowledge in teaching and learning may be so profoundly different from accustomed practice that another "change process" is required.

Interestingly, a more systemic approach is conceivable if we believe that the above learning principles applied equally to adults. And as we said about their relevance to children -- no choice! We either believe that everyone has these inherent capacities, or keep on dealing with the consequences of ignoring them. These common principles, derived from understanding how the human mind continually seeks and creates meaning from challenges in surrounding experiences, make it possible to conceive of ways to apply them to the learning needs of adults -- parents, teachers, administrators, policy makers -- who have a compelling reason to learn how to apply this new knowledge with children.

### The New Paradigm

With *learning* as its center, we could have a single-system process framework for learning, teaching, and running schools that can support learning among both the children and adults in schools. Like Copernicus, we would have a single system "map" -- a framework within which can be traced the natural interactions and connections between and among people in roles that influence or impact the quality of student learning and development.

By having a means for understanding schooling as a coherent systemic process, we can begin to address directly the equity-excellence disconnects as solution strategies can be envisioned and developed within that single perspective. Functional organizational infrastructures could grow around those interactions.

And leaders of systems connected by those infrastructures can address changed roles and relationships, trade-offs of time and resources, and the aligning of accessible support to the core human work of the system.

Within this new paradigm, schools can be more than "learning organizations;" they can be *organizations of learners*. This is more than a requirement. If America wants to develop and sustain both effective people and effective organizations, it is a necessity.

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In the next section we propose a strategy for beginning the transition to this new framework for thinking about and operating schools. □

## 5

### MAKING THE SHIFT

*“Before you can change what you do,  
you have to change how you think.  
Before you can change how you think,  
you have to change what you believe.”*

Lloyd Dobyns &  
Clare Crawford-Mason  
Thinking About Quality

“*Why should it be so hard?*” was the overall question that launched this search for another way of thinking about the everyday work of schools.

- What keeps us from making the differences in children’s lives that we want to?
- What haven’t the major resources put into research and demonstration by dedicated reformers resulted in sustainable improvements for *all* children?
- What prevents passionate, dedicated educators from *working together* to translate their common commitment into a total, similarly dedicated and caring school system?

The answer that emerges from the discussion so far may be:

It has been so hard because we have been “*going against the grain of the brain*.” We have been dealing with the consequences of running counter to the *natural behavior* of both children’s and adults.

To the extent we believe and accept this as true, we can shift from asking “why?” and turn to “what?” and “how?” What can we do about the conditions that serve as barriers to acting on this belief so that already-in-place human resources can be connected into a learning-centered system? For example:

- What will it take to develop a sufficiently-wide understanding of the scope and nature of the local school system to support beginning of the transformation process? Where will the leadership come from?
- What will it take to provide the technology-supported strategies and processes necessary to create and sustain the local system’s connectedness?
- What will it take to create experiences from which the implications of the new knowledge can be *learned*?

To find answers, let us start with what the “rules” imposed by what we already know about how human mind’s work suggest about how to override those conditions and initiate development of that system.

- First individuals must have a compelling reason to change the way they look at, and understand, learning, teaching, parenting, and schooling. As we will suggest in a moment these reasons have now been provided by the research on children’s learning processes.
- Then driven by the motivating power of understanding *why* new alternatives may be necessary, people need to have the means and support to use this new knowledge in their work and learn from that trial and error experience. Processes to support this type of learning from practice are used in other organizations in society but seldom have been applied to problems of this scope and nature within schools.
- Finally, from that continuing work experience, schools communities must have ways to develop the necessary knowledge and culture to sustain that way of functioning for *all* students. But the accepted world of isolated practice lacks experience working collaboratively as a team or system. Processes to support collaborative knowledge-building have only recently been developed in the private sector, and await transfer to use in public sector service organizations.

## A. Compelling Reasons

To fully tap possibilities that can be seen when viewing the work of schools with a different lens requires first doing something about the “old” lens. Getting “there” still requires starting from “here.” The task might seem relatively easy since nothing tangible really has to change, just ways they are perceived. But one reason for the great number of current situations that seem opposed to common sense is that when it comes to knowing about schools the “common sense” runs so deep. Critics of practices in business, manufacturing, or government have not spent a major portion of their early lives in those settings. They do not carry with them an imprinted, but seldom surfaced, model of the ways it is “supposed” to be. This schooling paradigm, originally developed from experience, now sits largely invisible and profoundly embedded in the minds of both the public and many practitioners.

“We are all veterans or victims of schools, ... connected by our children or our childhood.”

*Ellen Goodman*

As we now can see from brain research, this mental model won’t easily be changed until a sufficient number of people who influence the nature of America’s schools have new experiences as *learners*. And there has to be a *compelling* reason for doing this. Fundamental paradigms seem to change only as a last resort when the human mind finds it is the only way it can make sense of a situation. We seem more willing to get “out-of-the-box” of culture and intuition when we have no other choice. Either the paradoxes become unmanageable, or doing what appears to be the “right things” no longer produce intended results.

A shift in the current paradigm is underway when

1. there are increased arguments about seeing and doing.
2. there are extensive reports and data on failures.
3. there is dissatisfaction and confusion amongst practitioners.
4. there is performance deterioration which alters the political order.
5. there is an increased search for alternative approaches..
6. when little events lead to crises.
7. there is increased dynamism within the system.

*Richard B. Heydinger*

Some would suggest that we have almost reached that point today and, if we want “out-of-the-box” thinking, must apply even more pressure to that culture-intuition “box.” So once more we might ask: Has Copernicus’ experience contributed anything to our understanding about how to do that?

### Learning from Copernicus

As with the pre-Copernican earth-centered view of the solar system, mankind’s beliefs about learning and the “systems” that support it are deeply embedded in the culture and mindsets that frame what we believe and do in schools. Moreover, until now there has been no “reason” to change them. These beliefs seemed to explain why things worked (for some) and we usually could explain away any deviations (frequently by blaming someone or something.) Since mankind now accepts Copernicus’ paradigm -- a perspective that once produced evidence that also was counter-intuitive and counter-cultural -- what can we learn about how development of that new personal and societal knowledge overrode those barriers? What has to happen for new information and knowledge to transform into the *unconscious framework* of everyday practice in homes and schools?

Consider how Copernicus’ ideas eventually became fundamental beliefs about the way the solar system actually worked.

- First, acceptance of this different way of understanding the world in which they existed came largely from the experience of those whose *work depended on it* -- e.g. some farmers, explorers or astronomers -- who used the new information and found it helped them to be more effective in what they already had to do.
- Then the ideas achieved additional credence from those in *authority* who saw in the experiences of the initial believers that it might lead to greater productivity and success for the institutions they led.
- Finally, the authority’s support for the expansion of these new experiences began to provide a sufficient base for the rest of society to feel *safe enough to experiment*. Their own positive results then provided a base for accepting this new way of understanding as an unquestioned belief. It now made sense. They could see its benefits and knew why.

These lessons from the past about paradigm shifting may be useful today when we don’t have 200 years to wait for new beliefs and understandings to evolve. We still must address the problems Copernicus confronted when he tried to override beliefs that people had developed through direct observation. How do you get people whose life and livelihood don’t depend upon your “theory” to really, really *believe*? How do you convince the majority of the public -- including parents, policymakers, and practitioners -- to accept what they now consider “theory” as *fact* ...the-way-it-is, ...no choice?

To help find an answer, imagine that we could call upon the ghosts of Copernicus and Galileo to help us, and could ask them just one question about what they may have learned from their experiences:

*If anything were possible, was there any one thing you could have done when you were alive that could have convinced everyone that your way of understanding the nature of the solar system described the way things actually were?*

With the benefit of hindsight, they might tell us that they would have liked to have been able to take people to the surface of the sun. From that perspective, they then could look out and see how the planets actually moved. Now there would no longer be a conflict between what people could see with their own eyes and the new ideas from science about the nature of their world. From that time

on, the products of both personal experience and society's research would be developed by looking through the same lens.

For many years, advocates of learner or child-centered education have been seeking a similar lens so that everyone could look at schools from the perspective of the child at the "center" of the system. Clearly, the significance of such a shift in understanding could be as profound as Copernicus'. With this perspective society might begin to see new relationships between familiar occurrences, and based on these newly perceived understandings begin to think about new, more effective ways to get where it needed to go. This perspective might provide a lens through which people who work in the systems created to "produce" learning could see how their daily actions could support learning as a natural process.

But to create that new societal lens would require an event as seemingly "impossible" as taking everyone to the surface of the sun. People would have to "stand" in the mind of a child and look out at the experiences circling around it. Such a shift in perspective could convince everyone that what neuro and cognitive science is learning about the functioning of the brain and mind describes the way things actually *are*.

### A Funny Thing Happened on the way to the Paradigm Shift...!

But then something happened. As noted earlier, technology is doing for education what Galileo's telescope did for Copernicus. Until the recent availability of pictures of the brain at work, there was no proof compelling enough to convince key decision-makers in homes, schools, and government that the old choices can no longer get us "where we want to go."

Suddenly however the popular media has begun to deal with the new body of knowledge emerging from brain research as an important issue. News magazines saw them as cover story concerns. Newsweek in February 1996 and again in January and April 1997, Time in January, 1997, and US News & World Report also in January 1997. In his State-of-the-Union address, President Clinton announced that he and Hillary were "*going to convene a White House conference on early learning and the brain to explore how parents and educators can best use these startling new findings.*" In April they held that meeting and it was made available across the country by satellite. ABC presented a major prime time special on the subject in April 1997 as part of a major public awareness and engagement campaign reaching out to states and communities for follow-up.

On the same early February day as Clinton's announcement, the National Governor's Association held hearings about this new form of observable research at a meeting in Washington. Two weeks later North Carolina's Governor Hunt told his legislature and a statewide TV audience about how it affected him:

*Some of you have heard me talk about little children's brains for 4 years now. You maybe getting tired of it. But now I've got science on my side. My wife up there in the gallery has known it for a long time... and she just wants to know why it's taken me 40 years, 4 children, and 6 grandchildren to figure it out?"*

*"...the Governors at this meeting in Washington devoted much of their conference to this very subject. Democrats and Republicans alike -- governors across this country -- are focusing on it ...*

*...this new emphasis is coming from new scientific research and discoveries. Scientists have found...and they will show you pictures of the brains of children with different experiences ... they have found that the brain grows faster and develops more fully when a child is held, and talked to, and hugged and loved. They have found that 85% of the brain develops in the first three years.*

*85% -- that's why children with good parents get a good start! That's why good day care is so important! That's why children who are neglected and abused are hurt for life!*

*"...Now folks we can't guarantee every child a good family, and we can't set up a new public school system for children under 5. What we can do in state government is be catalyst for children. What we can do is get state and local governments working together, ...churches and business and community groups and health care providers ... all working together to meet the needs of children. ...To meet the needs of children in your community and mine...."*

Is this concern for children's minds another *flavor-of-the-month* fad that will raise hopes and then kill them because sufficient knowledge and resources can't be brought to bear on the problem? Or are the reactions of state and federal policy makers, as well as the public, indicative of something new that can have consequences quite different from what most of us have experienced in our careers working in education?

Suddenly policymakers and the public are responding differently than they have to other research and theories educators have used to "prove" that there might be better ways to run schools. These people are taking a new body of research seriously...very seriously! They accept it as applicable to *all* children, not just some; and more significantly, are becoming aware of the consequences of ignoring "use-it-or-lose-it" windows of opportunity for learning. Missing those opportunities, they are beginning to realize, has consequences for that individual's behavior for the rest of his/her life. Some of them are costly to society, all of them can be costly for the individual. As a public leader outside of education recently noted: "If we were talking about a rash that doctors had discovered on all two-year olds, there would be a public outcry. This is a public health issue!"

It is increasingly clear that brain research has introduced a new element to the systemic school reform equation, and this one has grabbed the attention of two key groups who sustain the base of understanding that serves as the context in which schools work -- parents and policymakers. Embedded in their minds are many of the assumptions about the ways schools are "supposed to be" that have limited efforts at large-scale changes in the past.

Indications of parents' and policymakers' rising concerns can be seen in two areas. Media presentations of this research, and especially its consequences, frighten parents already concerned about schools' slowness to change, and makes them even more anxious and critical. "Why aren't you using this knowledge?" they demand. Recognizing that such "use" had systemic implications, the *Education Commission of the States*, in April 1997, suggested that "Education systems need to begin to think about transforming their approach to learning."

"If you've got a guy who's got a bad heart, and bad kidneys, and bad lungs, what are you going to do -- cure him one piece at a time?"

*Governor Roy Romer, Colorado*

Other policymakers, exposed to the same information, are beginning to understand that the expanding remedial systems they have to operate in schools and other agencies are the consequences of not being able to take advantage of the earlier natural windows of learning opportunity. They are frustrated because most of the human service systems they support are structured for treating problems, not preventing them in the first place. Governors at the NGA meeting had shared Hunt's concerns and interests, and seemed to be seeking directions for proceeding. In general,

- They want to capitalize on the fascination with the human brain, and the resulting new concern for early childhood learning, to drive the institutionalization of new, collaborative uses of public and private resources in every community or county.

- They are looking for models that might contain experiences from which *they* can learn. They are looking for “scaleable” ways to create and then sustain new infrastructures in *all* their communities and counties, not just a few.
- They are looking for ways to enhance the knowledge and skills of well-meaning adults in homes, schools and other agencies who are doing everything right ...but seldom getting to where they want to go.

Interestingly, many of these policymakers seem to be at the point of readiness for Joel Barker’s “impossibility question.” To help people understand the profound differences a different lens or paradigm could make, he asks:

“What is *impossible* to do today, which if it could be done would *fundamentally* change your organization for the better?”

For America’s policymakers, the *impossible* -to-solve condition remains their inability to create and sustain the *essential properties* of a publicly-supported educational system -- i.e., to provide for both equity and excellence.

## B. New Strategies Based on New Knowledge

The previously cited three-step “post-Copernican” development sequence may now be relevant to our paradigm-shifting task of developing a learning-centered culture based upon *beliefs*. But with one important exception. The process can have a head start. We can begin with a compelling reason and with the sanction of “authorities” instead of first having to develop “proof” from the work of early adapters.

But the rest of the paradigm-shifting problem still remains. Even with a compelling reason driving them, people the world over still must have sufficient experience from which they can override what they “know” and “believe” about the nature of the organizations that have supported learning in homes, schools, and communities. Effective systemic management processes are required that can enable them to gain experience functioning as a system.

Furthermore, this can’t happen in a linear, top-down, time sequence. Society no longer can afford the time. And even if it could, what we are learning about the negative consequences (for both student and staff learning) of school’s present ways of operating “can’t be unseen.”

Fortunately, the same body of new knowledge also suggests possibilities and strategies not before apparent that can directly impact those conditions. In the next section we describe one such strategy. At a time when schools have neither the capacity, nor the societal support, to “fix” themselves, this strategy aims at developing and initiating processes that support local capacity development as a practically *simultaneous, inside-out, knowledge-development* process.

...replicating in one setting what happened in another is literally impossible... What is absolutely crucial in replication is that the assumptions, conceptions, values, and priorities undergirding what you seek to replicate are clear in your head and you take them seriously, you accept and believe them, they are non-negotiable starting points. “How to do it” is one thing. “How to think it” is another.

*Seymour Sarason (1995)*

At the core of this strategy is a key understanding: Human minds -- both children’s and adult’s -- require sustained, purposeful environments that permit learning from their “work.” To tap the potentials of the emerging knowledge from brain research, the collaborative work of the community and its school system now can become Learning about Learning.

## 6

**LEARNING ABOUT LEARNING.****CREATING THE “NEW” PARADIGM FROM THE *INSIDE-OUT***

*“We are now at a point where we must educate our children  
in what no one knew yesterday,  
and prepare our schools for what no one knows yet.*

Margaret Mead

Another paradoxical dilemma! As Mead suggests, we require a strategy that can address a problem and its context simultaneously... and, in this case, the context is part of the problem. We must effect what schools *do*, and the ways everyone -- both public and practitioners -- *thinks about* what they do. This unique requirement impels the following capacity-development strategy: Learning about Learning.

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In preceding sections this paper has focused a new, coherent lens on the problems America’s schools face attempting to fulfill their singular commitment to both educational equity and excellence. With student learning at its center, this different lens makes it possible to see the great number of missing connections within present day school systems and their communities that keep them from effectively dealing with either aspect of that goal.

Widening this lens, we can see two reasons why re-connecting those who share this mutual accountability so they can function systemically at the local level must be the *first* step toward systemic change. First, education’s needed coherence cannot wait for national and state policy changes. At those levels, resource scarcity has increased polarization between those who advocate for *all*, and those who advocate for *each*. This “either-or”-based battle usually produces compromises unsatisfactory to both.

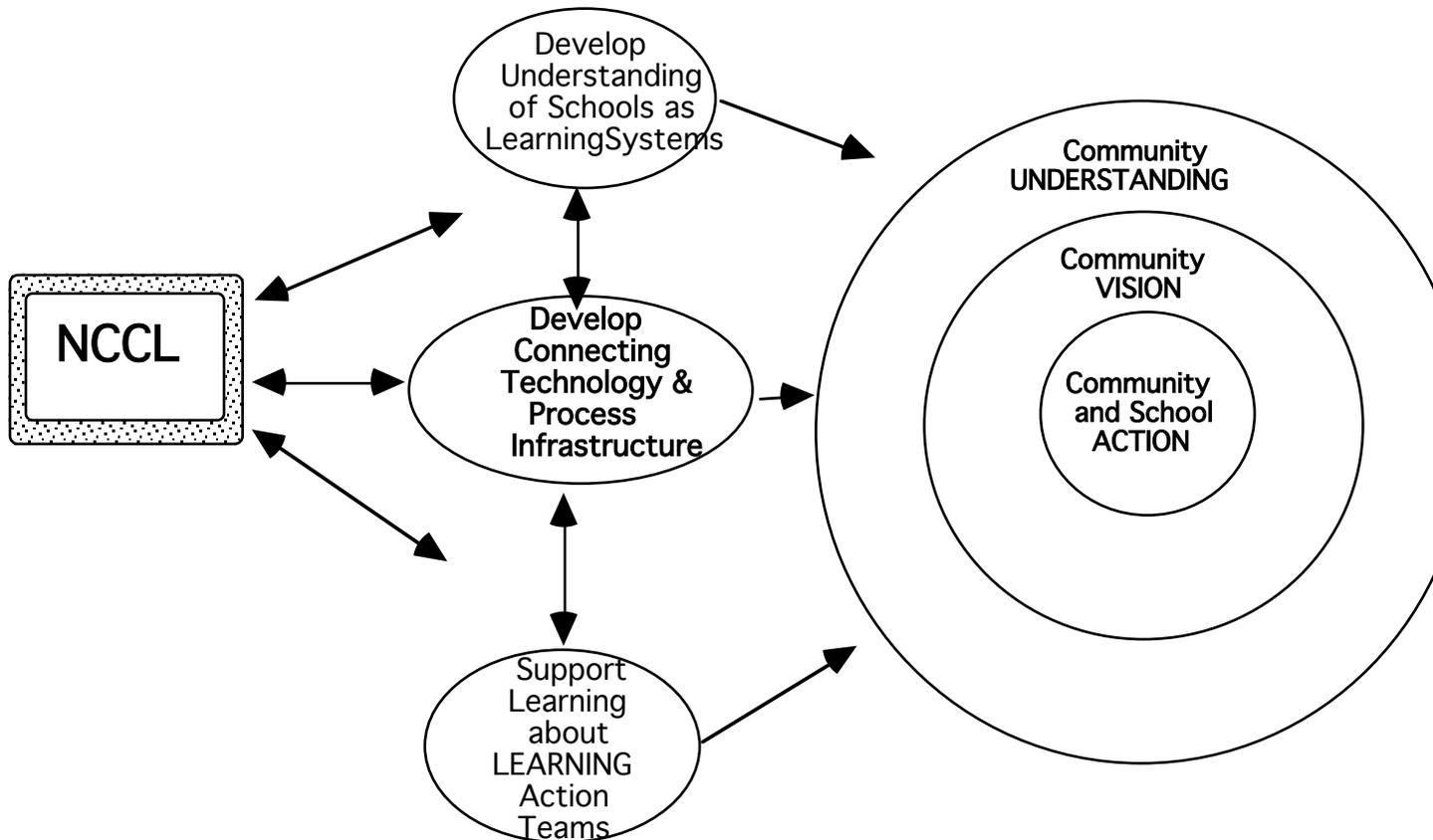
But of more importance, the critical experiences required to support beliefs that schools can function differently must emerge from interactions involving learners in schools and classrooms. The scope and nature of the local school system makes it the optimal unit in which can be embedded the needed infrastructures to sustain that process. The process of systemic change cannot end there, but it is the only realistic place that it can *start*.. Schooling can, and must, be re-woven from the inside out.

The challenge, at national, state, and local levels, is to develop strategies that can be useful to policymakers, and at the same time serve to help communities and their school districts better meet needs of children presently in school, not just those in the next millennium. Planning and action must be connected in new ways that link present and future.

In this section we take up that challenge. The activities of a Learning about Learning initiative, which are outlined in the following pages, constitute a specific strategy designed to initiate actions in three areas requiring additional knowledge development:

- System understanding and practices need to be applied to schools and school leadership;
- Once schools understand themselves as connected systems, they require connecting tools and processes that can allow them to act on that knowledge; and
- Communities needs ways to learn *about* ,and *from*, functioning as a collaborative learning-centered systems.

We suggest that the American Association of School Administrators proposed *National Center for Connected Learning (NCCL)* might provide a timely and appropriate “center” from which to initiate this strategy.



**A. Overview of the Learning about Learning Initiative**

Today America has the knowledge to operate its schools as continually-improving systems of people dedicated to making a difference in the lives of children. But it does not yet have the *wisdom*. Wisdom is that unique form of knowledge that develops as the product of learning from solving problems. Where is this experience-derived knowledge to come from?

New knowledge historically has come from theories that are translated into practice, and/or from practices that over time reveal underlying theories. Either route is necessarily slow. To survive in a fast-changing

“The challenge for an expert society is not to find but to generate wisdom. If we are correct that wisdom is generated through problem solving, then this should be possible. The necessary endogenous processes already exist to some extent without an organizing idea that gives people something to work toward. ... The endogenous processes are ones that generate active wisdom--an enlightened and effective concern with human values and far reaching consequences--by broadening the scope of progressive problem solving that goes on within the disciplines, institutions, and agencies that produce progress.  
*Bereiter and Scardamalia*  
*Surpassing Ourselves, 1993*

environment, the time required for theory to inform practice and practice to inform theory must be reduced. This can only be done by integrating them into a single process linked to daily problem-solving integral to the continual flow of schools' work.

We propose that *new knowledge* can continue to be developed at two new intersections of theory and practice. One is in the local community, and is the *goal* of this initial development effort. The other is in the world of organizations outside of schools, and is the *starting point*. -- Both capitalize on the belief that what cognitive science has already revealed about the nature of the mind has profound implications for schools and the development of future generations. These new learnings must be easily understood, and made widely accessible, horizontally and vertically, throughout schools and their supporting communities. But "understanding" is not sufficient for this dimension of cultural change; to reach that level of belief requires learning.

To initiate and facilitate that critical and timely learning a catalyst is needed that can bring together appropriate interests, help develop and promote a vision of the "whole" in which all parties can understand their "fit" with their necessary-others, and develop needed support for integrating that vision within the work of schools. We believe that AASA's *National Center for Connected Learning* can be the appropriate catalytic agent and envision the following three interrelated development tracks as part of the Learning about Learning Initiative.

Descriptions of each track outlined below include an overall purpose, intended outcomes, and an example of an initial activity that could launch the development work. More specific details on these and other activities are available in a supplementary document.

## Capacity Development Track One

### Goals:

The first developmental component focuses on Understanding Schools as Systems and aims at changing the embedded "mental model" of schools. It has been designed with three related purposes:

- to create a new framework for understanding schools and communities as connected interdependent *systems* of learners who *must* learn from their work;
- to create a sense of urgency, understanding, and support *outside* the educational system. and
- to utilize the above experiences to explore, define, and articulate the critical, and unique role of *system leadership* so that this new knowledge can be integrated into both leadership preparation and in-service support programs.

This capacity-development track is based upon the premise that schools do not have the capacity to fix themselves because they, and their communities, lack a prerequisite way of thinking about and understanding schools as connected systems of *learning*-centered work. School and community leaders need a new "plot board" similar to those of physicians who must understand the connections among a body's sub-systems and parts before they can respond appropriately to physical problems. The picture that emerges from this effort of schools as intentional learning environments can serve as a "blueprint" for restructuring America's schools.

Moreover, as a *different way of thinking* available to everyone, it does not need to wait for national or state policy or funding changes to begin to influence local actions.

### Outcomes:

Emerging from this development track will be a coherent conceptual frame for understanding the nature of the relationships that hold schools together as effectively performing, learning-centered organizations. This organizational vision must make it possible to perceive connections to common purposes, to identify key leverage points for capacity development, and to suggest specifications for a single (people, process, and technology) infrastructure linking all components

of a school district to the single purpose for which they exist: the continual development of children's capacities to learn.

#### Process:

- To accomplish this, a series of conference/seminars would be conducted designed to:
- (1) surface the knowledge of *World Class*, MBNQA (*Malcolm Baldrige National Quality Award*) winners in forms that will make sense in the context of schooling;
  - 2) facilitate its transfer to educational settings by synthesizing it into practical strategies appropriate to schools; and
  - (3) begin to develop a critically-needed body of knowledge for system leadership development in education.

The general outcomes of this conference series will include a set of informing organizational principles, a "road map" for a community capacity development process that supports collaborative work among all stakeholders in learning and human development; and general design criteria for the education-relevant tools and processes necessary to enable and support the comprehensive changes in capacity required.

#### Activities - Learning Productivity Seminars

##### Seminar Goal and Purposes

The overall goal of these meetings is to enhance the *learning productivity* of America's schools in the shortest period of time. Recognizing that schools have to develop the overall capacity and public support to use the new knowledge available to them, the initiative intends to engage the minds of a small group of CEO's from *World Class* corporations who have exhibited a systemic way of thinking about, and understanding, their own organizations as connected systems of *learning-centered* work.

In a series of Learning Productivity Seminars we will attempt to benchmark *how* these system leaders think (not necessarily *what* they think about.) They will be challenged to apply their ways of thinking to a new and different understanding of the *work* of schools, teachers, and students. This process will be designed to identify a range of strategies for working collaboratively within that system to continually transform it in the face of new challenges.

...business executives, aware as they are of the changes their organizations have had to make in structure and process, cannot understand why schools have remained what they were... despite the lack of desirable outcomes.  
 ...they enter the fray armed with good (indeed the best of) intentions only later to be disarmed by the consequences of their ignorance.  
 ...That is true not only for many in the private sector but for many reformers in the educational community; the former are latecomers to the scene.

Seymour Sarason  
1995

But possibly the most important outcomes for accelerating change at the local level from this component will be the *credibility* the corporate world would be able to provide to this very different way for communities to understand and support the operation of their schools; and the sense of *possibility* and *urgency* they can communicate for beginning the process.

##### Seminar Participants

The present intention is to bring together people from the private and public sectors who have developed and demonstrated, through their personal experience, a practical understanding of how to sustain and continually improve their organization's systemic capacities. These will include, in addition to business leaders, key leaders from within education and the community familiar with the problems of operating human service organizations as coherent systems.

The use of key leaders from the corporate sector will provide two distinct values: the obvious learnings from their unique experience and, equally important, their enrollment in the task of

educating the public so these concepts can be embedded in the permanent communities that influence the present culture of schools.

### Seminar Process

Our intent is to challenge these leaders to apply their systemic ways of thinking to a new and different understanding of the *work* of schools, teachers, and students that has emerged from the new research on the brain and mind. They would be exposed to these research findings in ways that permit them to link them to their own experiences as learners and “teachers.”

The meeting design will provide experiences out of which they can develop a new “mental model” of schools as organizations of learners. Then, using this organizational model as framework, their own knowledge of organizational leadership will be brought into play to synthesize their knowledge into practical strategies appropriate to schools for developing their capacities for continual improvement.

## Capacity Development Track Two

### Goals

The second component focuses on current and projected technology and process applications relevant to a school *system* ‘s needs to act as a system. The purpose of this development track is to provide opportunities for re-thinking how already available technologies and processes can be “re-engineered” for use in the practical operation of schools as organizations of learners. An initial focus will be on tactical “leadership technologies” that provide the critical “people” connections required for collaboration.

### Outcomes

The activities will be directed to development of design criteria for a sustainable infrastructure that can operationally link the new *system* vision and everyday practice by supporting collaborative knowledge building as part of daily work. These will include design principles for a sustainable infrastructure:

- that supports collaborative work among those accountable for the quality of teaching; and
- that can support the functional relationships involved in using the new knowledge in teaching and learning.

While the initial focus will be on the technology infrastructure for capacity development, through use of new forms of *intranets* and *groupware* to support collective, iterative, *organizational* knowledge-building, these “hard” technologies will be integrated with the other “technologies of connectedness.” These include tools and processes such as:

- *visioning* and *Future Searches* that help create common, meaningful, belief- and value-based visions and frames within which connections to common purposes can be perceived.
- *vertical and cross-functional teaming* that help manage the social system that serves as the medium in which the work of school systems takes place.

“Collaboration is one of the most poorly understood and least appreciated human behaviors -- it also happens to be one of the most important. Truly successful creativity and innovation is as much a social act as an individual affair. More often than not, *collaboration proves to be the path of maximum advantage, not of least resistance.* Unlike mere communication, collaboration is supposed to produce something -- at the very heart of collaboration is a desire or need to solve a problem, create, or discover something within a set of constraints (expertise, time, money, competition, and conventional wisdom).”

*Michael Shrage*  
“Shared Minds: The New Technologies of Collaboration”

- *total quality management* that helps identify the interdependence of actions within an organization so that this connected work can be reinforced and become a sustainable, supportive infrastructure focused on the continual improvement of that system.

### Capacity Development Track Three

#### Goals

The third component -- the creation and support of **Learning about Learning Action Teams** -- will address the critical local intersection of theory and practice. The initiative will identify and work with a testbed of communities which can provide an appropriate context for demonstrating the applicability and value of new tools and processes *in settings that match the scope of their potential*.

The *Learning about Learning* strategy envisions a school district and its community together undertaking the job of refashioning outdated, constraining mental models into new understandings of how people in organizations, schools included, work. This new knowledge emerges from the *inside-out* -- developing from their own collaborative experiences in support of children's learning. They continually test these new ways of working and sustain them through use of new organizational scaffolds that link and support new behaviors until they can become part of the community and school culture.

"Its not so much that we're afraid of change,  
or so in love with old ways . . .  
but its that place in-between that we fear  
Its like a trapeze artist between trapezes . . .  
or Linus with his blanket in the dryer . . .  
. . there's nothing to hold on to !  
*Colorado Teacher*"

The strategy supports development of *Learning about Learning* action teams within school districts that could generate the vital knowledge that can only come from the front-line interaction of theory and practice. There, the use of these community-connected teams, focused on specific compelling problems limiting teaching and learning effectiveness, puts the responsibility for development of a productive learning and teaching environment in the hands of those who must work in it. The support provided them enables people totally engaged in the daily work of the current system to gain new knowledge, and then be able to act on it, systemically.

#### Outcomes

Building-level cross-functional teams [linked to others in district, central office and community who influence the *process* of teaching] will have the capacity to address directly the challenge of capitalizing on brain-based research.

These small, vertically composed groups of the *customers-suppliers* impacting the teaching process within that district have a common purpose: to directly address the challenge [compelling reason] to translate what they learn from brain/mind research into knowledge and actions that can impact the greatest number of children in that district. . . "on their watch," not in the "future."

#### Process

The development and support of these building and district cross-functional and vertical teams will be facilitated by the outcomes of the Initiative's other two components, and will be accelerated by the already-available knowledge developed through similar efforts in education and in industry. For example, AASA's and Motorola's *District Learning Leadership Teams*, the Institute for Research on Learning's (IRL) work with *Communities of Practice*, Geoffrey Caine's work with linked, non-competitive, non-hierarchical building teams focused on brain-based learning, *action-learning* programs in industry such as those developed by IRL and Xerox that have helped people reflect on, experiment with, and learn from the problems they encounter in their work experiences. (For a sense of what this process might be like, see Appendix: *REWEAVING A COMMUNITY BY LEARNING TOGETHER*.)

### B. Learning about Learning Strategy Rationale

Designed to erode the paradoxes constraining schools today, the Learning about Learning strategy might itself be seen as a paradox -- e.g., opposed to the seeming common sense notion that systems must be changed from the top-down or bottom-up. Paradoxes like this seem *illogical*, and not *rule*-based, or at least not by the rules of deduction and induction as we have known them.

This is another case of where we are still entrapped in our old mental models, especially how we *think about thinking*. As cognitive beings, we are coming out of a culture of *either-or* thinking, and it is hard to let go. For example, in planning, *deductive* logic plays out in top-down strategies, *inductive* logic in bottom-up. Now we are discovering that there is a third domain of logic -- *abductive*. Also rule-based, this way of thinking brings into the process -- as an equal partner -- the *internal* rules of the mind. These may have been acknowledged in the past (e.g., “beauty is in the eye of the beholder,” “perception is truth”) but set aside when a task required “serious” thinking.

In western cultures at least, we have not had ways to use these rules-of-the-mind. But now with the relatively recent learnings from cognitive research we are discovering many of them; and finding how to use techniques such as metaphor, lateral thinking and other a-logical processes to transform the seeming-paradoxes in the world around us into something we can understand and directly deal with as *both-and* conditions.

This way of thinking leads us to a belief that systemic change can start with improvements in children’s learning instead of assuming that these improvements appear after organizational changes are in place. Here is why.

- People who care about *specific* children, e.g., parents and teachers, will not want to wait for schools to “change” before they can begin to “try out” some of the new knowledge represented by the *brain research*. Some “new findings” will make sense to them because they resonate with experiences they may have had in their personal or professional lives. It is our premise that we can tie this developing research to sufficient personal experience in the domains of learning, teaching, and organizational relationships to serve as an internal driver for change.
- People want to be part of and contribute to a “larger” good, regardless of their role or organization. They want to improve the overall context in which they work and live, and many times have knowledge, experience, insights, etc. that are not recognized or valued.
- To address the *helplessness* and *hopelessness* that is beginning to pervade the educational scene internally and externally, it is our premise that both the public and practitioners must have ways to feel, and eventually believe, that the complex dynamics of the entire situation can be addressed in positive ways. That sense can best come from *personal* experiences in which they discover common values with others; discover the benefits of making use of their natural interdependence; and can continually learn in a supportive environment that allows them to take risks together.

The products of this strategy, therefore, are intended to create new opportunities for *systemic learning* that start with improvements in children learning, and use these to drive a simultaneous *inside-out* learning process that connects the learning of practitioners, their communities, and then policymakers to that compelling catalyst.

To accomplish this the Learning about Learning strategy has been developed on the base of what we as a society already know and do ...*but seldom apply in our schools*. This includes new knowledge and understandings of people and organizations that have emerged within the last two decades -- along with new methodologies based on them -- that now can address the gaps of *purpose*, *space* and *time* that have served as blinders hiding the true nature of the system needed to support learning in our schools and communities.

Knowledge: The strategy builds upon three emerging areas of organizational knowledge. These are developing understandings that:

- the quality of an organization's results are more a product of the *relationships* among its parts, than any one part itself.
- system leadership is a *connecting process* that provides a framework for establishing, and then the means for sustaining, the critical human connections which enable the whole to be more than the sum of its parts.
- information technologies can be *relational* tools that enhance and extend what individuals do; serve as connectors of people jointly attempting to accomplish mutual purposes; and which can provide temporary scaffolds of relationships to support new infrastructures as they develop.

Beliefs: This knowledge is applied within a framework of beliefs about schools and the people within them.

- Learning is *capacity development*.. Changes in performance over time are a consequence of *learning*. A new capacity has been developed. This is true, whether for student, teacher, or school system. In all of these cases, development of that new capacity is an *inside-out* process.
- Organizations can't really learn, only people can -- one brain/one person. So for organizations to improve their capacities, people have to have ways to store their learnings in the organization's way's of doing its work. This sustainable capacity becomes embedded in the *infrastructure* of human relationships that are a system's functional connections between roles people play.
- Regardless of changes in policy and practice, efforts to make fundamental modifications to the processes of schooling have failed because schools have not had that capacity to *learn* -- i.e., to change themselves as sustainable systems.
- As an organization, the school district is *already* a system - i.e. a collection of interrelated functions intended to accomplish a common purpose. That it doesn't usually operate as one or, when it does, acts dysfunctionally does not change the fact that the present system of relationships is an accountable unit whose most important acts are *interactions* that influence the individual actions of its "parts" as they work to attain that common purpose.
- Accepting that the school district is *already* a system provides a more holistic framework and a different starting point for actions. For example, systemic change strategies can start with the elements that define its nature as a system -- its connecting *relationships*.
- By focusing on creating, or unclogging, its functional connecting relationships, the system can, from the beginning, act as a system. Then, as changes take place all the involved and related parts of the system can adjust. In any system of interdependent parts, this continual adjustment process is fundamental for changes to be sustained. In living systems it is called "growth," in organizations it is called "continual improvement."

## 7

## THE LEADER-AS-CONNECTOR

*“When we truly begin to understand what our kids need to know and do to face an uncertain future, when we can see that all our kids have the same chance at success that is currently reserved for a few of our kids, when we can connect all the parts of education and join together--adults and children working toward the same end of higher achievement--then it will be a goal within our grasp.*

Paul Houston  
Executive Director  
AASA

This paper grew out of discussions with AASA’s Executive Director, Paul Houston about the new *connecting* roles required of today’s leaders. It may seem as if we have gone the long way around to get back to leadership, but the disconnected condition of schooling today suggested that this role had little meaning without agreement on what is being connected and for what common purposes. We have explored the disconnects -- both the literal ones and those created by the way our minds make sense, questioned present assumptions about the work and work settings of schooling, and have suggested that the smallest stand-alone set of connected parts that can sustain needed improvements is the local school system.

The intent has been to raise different questions rather than provide answers, but we have suggested an “answer” for AASA’s consideration that will require that the association itself take on a *system-leader* “connecting” role. Its new *National Center for Connected Learning* could allow it to “walk-the-walk” by focusing and extending this questioning process and translating its “answers” into strategies, processes, and products for use by both policymakers and practitioners as they address the systemic conditions that presently reduce their schools’ effectiveness.

<p>“The manager asks <i>how</i> and <i>when</i>; the leader asks <i>what</i> and <i>why</i>.” Warren Benis 1990</p>
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In this final section, we turn our new lens on the *leader-as-connector*, or system leader, role.

If there is an overall “answer” in this paper to the original question about leadership “Why should it be that hard?,” it might be found also as a response to Joel Barker’s “Impossibility Question.” *What is impossible to do today that, if done, would fundamentally improve schooling in a significant way?*

Our answer: to provide schooling’s *missing middle* - the connecting tissue necessary for it to exist and grow as a sustainable system rooted in its local community. A recent major research study says that developing this internal capacity is *necessary*, AASA’s experience says it is *possible*.

## A. The Missing Middle

Supported by OERI/USDE and the Carnegie Foundation, a 3-year study of educational reform in schools, districts, and states makes clear why, regardless of changes in policy and practice, all efforts to make fundamental modifications to the processes of schooling have failed. Noting that schools... "fail to consider the many factors that interact to determine educational capacity" ... rely on "strategies (that) target individual teachers... and ignore the other parts of the educational system that directly impact a teacher's ability to teach," they conclude that schools have not had the capacity to change themselves.

**"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.**

For this to happen, however, requires a fundamental change in orientation ...to one in which all work is designed and evaluated with an express goal of enhancing capacity to improve student learning.

...impact on improved learning will depend upon what happens within the system itself. Our data suggest that what is needed is a coherent and strategic approach to capacity building, one that takes into account the needs and goals of the individual learner, school, and district, and state, not just for the immediate initiative, but for the long term. Only in this way can systemic reform's promise of "top-down support for bottom-up "reform be fully realized."

"Building Capacity for Education Reform,"  
Consortium for Policy Research in Education (CPRE).  
December 1995

AASA's experiences working with systemic change processes indicates that such a "coherent and strategic approach to capacity building" is within reach. These experiences include a series of developmental national efforts working with local systemic change processes such as district *vertical teams* and *continual quality improvement processes*,<sup>1</sup> culminating in an invitational seminar on leadership and systemic change at the Aspen Institute<sup>2</sup>, and most recently documented in a number of national articles and publications.<sup>3</sup> It also builds upon a growing base of knowledge emerging from both industry<sup>4</sup> and science<sup>5</sup> about *inside-out* developmental processes.

Together, these experiences suggest that the knowledge resources can be brought together uniquely at this point in time to address both the new *content* of teaching and learning, and concurrently, the new *contexts* that will be required to support them. But to do so requires leaders to confront another paradox. The place where these new capacities must be embedded is the "middle space" presently perceived (many times correctly) as unfeeling bureaucracies out of touch with both the system's learning center and its community boundary. Appearing useless, and a drain on scarce resources, this dimension of the system is a prime candidate for elimination -- under

<sup>1</sup> See "Building Capacity for Sustained Improvement," The School Administrator, March 1995; and Schools That Make Sense, Four-part video & Guide, January 1995;

<sup>2</sup> Seeking New Connections: Learning, Technology, and Systemic Change; Aspen Institute in Wye, Maryland, August 22-24, 1994, AASA; published in Learning and Leading With Technology, ISTE, May 1996;

<sup>3</sup> "Technology-Driven Systemic Change," "Looking Through a Different Lens: A New View of Information Technology," Learning and Leading With Technology, ISTE, March & April, 1996; "Building Leadership Technology: The Missing Link between a Superintendent's Vision and the School District's Actions," School Administrator, April 1997

<sup>4</sup> The Knowledge-Creating Company, Nonaka and Takeuchi, Oxford Press, 1995

<sup>5</sup> Leadership and the New Science, Margaret Wheatley

the euphemism of “flattening” the organization. Yet, it is the only place from which sustainable connections can be built.

To get their hands and minds around the problems of the “middle,” leaders enter a minefield in which the pathway is both counter-intuitive and counter-cultural. Middle-management lives a self-fulfilling prophecy. Perceived as “bureaucrats” operating in a rigid bureaucracy, their responsibilities are seldom aligned to the front-line problem-solving of the staff they are supposed to be supporting. When they try to counter these perceptions, their good intentions are squelched by the smiles and hidden laughter in response to their offer: “*Hi, I’m from the (central office, or federal or state government, etc.)... and I’m here to help.*” They end up acting, therefore, in isolated ways that provide them with some degree of needed job-satisfaction.

One result is that the middle’s own culture has become part of the problem. It has become a culture of organizational “silos” supported by the way knowledge is fragmented into disciplines in academe, by curriculum and instructional levels, and by associations of role-peers. Without functional connections to the system’s everyday actions, it should not be a surprise that they may feel more closely tied to these silo areas than to the school system itself. And, most regrettably, in this disconnected state they could not provide a way for all the school system’s parts to learn and adapt *together*.

As a consequence, a belief that school systems can’t learn (and therefore change) has become an unquestioned assumption underlying the *culture* of schools. In a way it has become a self-fulfilling prophecy as concerned reformers in foundation, government, and industry have poured millions of dollars into isolated, building-centered, demonstrations that usually survive only as long as outside support is maintained.

Yet seldom was the *system* itself included in the reform as an active learning partner. In most cases, it could not be because the districts themselves lacked an infrastructure of processes needed to support the organization’s own continuous learning. Thus, until now there has been little evidence of systemic change, because it has been impossible to attempt anything systemically. Reformers have been trying to “scale-up,” while the natural tendencies of the system called for ways to “scale-out” -- to develop new capacities from the *inside-out*.

Effectively dealing with this “paradox of the middle” requires leaders whose understanding of the system enables them to view the district staff not as “bureaucrats” operating in a rigid bureaucracy, but as people having a potential to develop a more responsive system of support from the *inside-out* to replace it. It requires “system leaders.”

## **B. The Scope & Nature of System Leadership**

AASA’s experiences have also contributed learnings about *system leadership*. First, that the problem of fixing a *system* through capacity development, as opposed to “fixing” the people in it, is a problem of a different scope. And as Roger von Oech creatively notes in *Strawberry Shortcake for 25,000 People*, the scope of a problem changes its nature. Although the “end product” looks and tastes the same, the leadership issues and tasks involved are fundamentally different.

... “suppose that you have a recipe for strawberry shortcake that serves four people. One day you invite over seven friends to eat this dessert. To make it, you simply double the recipe... On another occasion, you invite over one friend for dessert. To make it, ... you halve the recipe. Now suppose that you invite 25,000 of your closest friends over for strawberry shortcake. **Now the most difficult parts of the problem are no longer given in the recipe.** These things include doing futures buying of strawberries on the commodities market; making deals with the Teamsters to deliver enough cream; large scale renting of bowls, spoons, tables, and chairs; and traffic flow coordination...”

Note that the ingredients and their proportions remain the same. What changed is the problem. It now includes quality and quantity, and is played out in a longer time-frame. The key to large-scale “culinary leadership” now lies in the extent to which leaders can create a sustained infrastructure of interdependent processes that bring the basic ingredients together -- in the right proportions and relationship at the right times -- for use by those with their hands in the “dough.”

### Requirements

This type of problem requires leaders with *new understandings*, and then *tools* that empower them to manage the means-ends interdependence of their organizations. System leaders require sufficient *hands-on experience* to know what each ingredient contributes, and how much they can vary the relationships among them and still produce a quality outcome. These leaders may be driven by a *vision* of what their “strawberry shortcake” looks and tastes like. But vision is not enough, especially in a dynamic world of unforeseen complexities. System leaders must have ways to keep the experiences of others linked to the same vision. Their vision must have within it an *infrastructure of sustained operational processes* that can maintain continual interaction between vision, action, and results.

Envisioning a school district as such an interconnected system enables leaders to tap into the critical interdependence of two key *leadership* roles - the teacher’s whose interactions with a student encapsulates all of the system’s prior decisions; and the superintendent/CEO’s who has the unique “power” to align and connect all the system’s components to those critical *moments-of-truth*.. In that framework real *empowerment* comes not just from an individual’s capability to make appropriate and responsive decisions, but also the system’s capacity to connect and align those individual decisions to their mutual purposes.

System leadership concepts such as these are more readily accepted in business and industry but, as noted earlier, in schools infrastructure and process changes that don’t appear to the public and policymakers as relating directly to *children* seldom get supported. They are counter-intuitive - appearing to deal with elements that have little to do with the “problem” at hand (i.e., classroom learning and teaching.) Thus, without resources to develop them, the skills, understandings, tools and processes for operating as a coherent system have not been an integral part of our schooling “recipe.”

To overcome this, these strategies require leaders that can deal with the ambiguities of living in a time of “not knowing.” For leaders, especially, it is not always okay to be perceived as “not knowing.” It is another paradox that as purposeful, problem-solving beings we are intrinsically driven, or “programmed,” to thrive on the challenges of “not knowing.” Throughout our lives we have learned how to do what we didn’t know how to do as we went through the experiences of trying to do it. This is how we learned to walk, talk, and function at work and home. We grew in capacity through continuous short-term experiences in long-term directions. What we have lacked until now are ways to employ that same capability-development learning process as part of our organizational behavior.

“We are not living in an age of enlightenment, but an age of not knowing what to do.”

Walker Percy  
Thanatos Syndrome

Fortunately, from quality management and other continual improvement processes we are learning that work settings can be reflective learning environments if the “trial and error” loops are short enough to catch problems quickly, and if *everyone* partakes in the learning. This type of collaborative knowledge-building turns the perceived “risks” of not knowing into a challenge to *learn*.

"As a manager, I could take on any project without having to know the answer ahead. All I had to know was the process for finding it."

Xerox Manager

Finally, because of the scope of the “system” that influences children’s growth and development, the *new learners* from education’s system strategies cannot be just traditional educators. School *system* leaders will increasingly have to work with an expanded view of “their” system. They will have to balance “two apparently contradictory requirements” recently noted by Peter Drucker:

Organizations must competently perform the one social function for the sake of which they exist--the school to teach, the hospital to cure the sick, and the business to produce goods, services or the capital to provide for the risks of the future. They can do so only if they single-mindedly concentrate on their specialized mission. But there is also society’s need for these organizations to take social responsibility--to work on the problems and challenges of the community. Together these organizations *are* the community. The emergence of a strong, independent, capable social sector--neither public sector nor private sector--is thus a central need of the society of organizations. But by itself it is not enough--the organizations of both the private and the public sector must share in the work.

*The Age of Social Transformation.*  
*Atlantic*, November 1994

Most community problems today are “messy” -- they have interdependent causes that almost make it impossible for any one human service or other agency to affect them. And, in most cases communities have no choice but to respond to them with what they have -- individually mandated and supported agencies each operating out of their own “silo.” In many communities we find an education silo, a health silo, a welfare silo, juvenile justice silo, economic development silo, etc. Although the problem is recognized and has been addressed on a small scale, there have been few ways to build on the actual *interdependence* of these services to end up with a sustainable community structure.

“Vestiges of ...efforts remain, but service delivery remains fragmented and incapable of addressing the increasingly complex needs of children and families.”  
*National Center for Service Integration*  
1994.

What is being learned about the *relational* uses of information technologies has yet to be applied fully to these local needs for linking seemingly different “work” to common purposes. Nor have they been used effectively to address the overall growing breakdown in social connectedness that goes beyond the schools.

“...the nations’ social structure, the one built on *trust* and *reciprocity*, is in far greater disrepair than the physical infrastructure.” --  
Edgar Cahn, School of Law,

If *interaction* is the medium by which trust is established and reciprocity carried out, then American society has been losing the *enabling connections* necessary to support that interaction. Edward M. Hallowell recently noted the paradox of this condition:

“We live in a time of remarkable connectedness on the one hand. Globally, we are joined by fax machines, telephones, computers, supersonic transport, and all manner of electronic communication such that we are only seconds away from the other side of the planet.

Yet, paradoxically, locally, at our home base, in our home town, we are in many ways separated, disconnected, even isolated. The connections that sustain and uplift, the connections that make life buoyant have, for many people, come unplugged.

“Finding the Heart of the Child:  
Essays on Children, Families, and Schools”

Today America has the *knowledge* to operate its schools as continually-improving systems of people dedicated to making a difference in the lives of children. Now it requires leaders with *wisdom* -- that unique form of knowledge which develops as the product of learning from repeated experiences.

Only through experiences of learning together, can America's communities develop and support leaders who can deal with the *scope, nature, and immediacy* of today's educational needs.

The development of this new leadership could well be the mission of AASA's *National Center for Connected Learning*.

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*“Knowing what we now know,  
We can no longer do  
what we now do.”*

**John Abbott**  
*21st Century Learning Initiative*

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### Author

**Lewis A. Rhodes'** career as association executive, consultant to federal and state government, director of national projects for foundations and government, private sector consultant, and as a university faculty member has centered on problems that arise when people try to work together effectively in organizations. In recent years this has focused on issues of systemic leadership and management for schools and other community human service organizations. Currently, his work integrates principles of *collaborative knowledge-building* and *quality management* with *information technologies* to develop sustainable infrastructures that can support schools as they transform from organizations of natural learners into natural learning organizations.

He currently serves as *AASA Total Quality Network Liaison*; a principal of *Sabu, Inc.*--a consulting group that deals with problems of organizations as coherent systems; and a member of the Board of Examiners for the Malcolm Baldrige National Quality Award.

From 1987 to 1995 he was Associate Executive Director, Instructional Leadership & Technology for the American Association of School Administrators. Prior to AASA his efforts -- as Assistant Director at the Association for Supervision and Curriculum Development (ASCD), a faculty member at Central Michigan University and the University of Nebraska, and project director for several national research, training and technical assistance programs -- similarly focused on problems of communications and management in education and other human services.

During the 1960's he directed the Ford Foundation's *National Project for the Improvement of Instruction by Television*. In the early 1980's he developed the US Department of Education's *Project BEST* (Basic Educational Skills Through Technology).

He has served as consultant to the U.S. Department of Education, Secretary of Health and Human Services, National Institute on Drug Abuse, National Endowments for the Arts and for the Humanities, as well as numerous state and local education agencies.

His experience as an organizational development consultant in the private sector includes Director, Communications and Training for Applied Management Sciences, Silver Spring, MD ; Coordinator of Corporate Communications Metropolitan Group Companies, Washington, D.C. & Minneapolis, MN; Vice President, E.F. Shelley & Company, Inc. Washington, D.C. & New York.



**APPENDIX:*****REWEAVING A COMMUNITY BY LEARNING TOGETHER***

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**WHAT CONNECTED LEARNING MIGHT BE LIKE**

**The following scenario describes a hypothetical visit to a community and school district undertaking to erode old, constraining mental models from the *inside-out* using knowledge developed from their own experiences in support of children's learning.**

The old timers in *Alphatown* are still shaking their heads. These included several residents who had worked in or around schools, and many whose only connections were their children or their childhood. What was happening with their schools today would have seemed like some idealistic teacher or administrator's dream only 5 years ago. Children's learning had become a community priority, not just a concern of parents and educators. In fact, many of the overall changes in which they all were engaged went beyond what even political leaders and critics of schools had thought possible. The old timers weren't alone, either. Others in the community laughed sometimes at what they used to accept as school practices. They had never thought much about how many of those would have been unacceptable if any other organization in society employed them.

*How* did they get from there to here? To tell this story, we purposefully will not discuss the obviously different nature and results of children's learning experiences to which the old timers' were referring. First, because the characteristics of particular instructional practices are not as important as their *essential common property*. That is, each is an appropriate and timely learning experience for a child, and they are the core of all children's learning experiences. And second, because the important story here is what the *adults* in the community have been doing, and why. What led up to these types of "different" actions that were influencing those different results? What seems to be happening now?

**In the beginning...**

- No one can recall any one event as the starting point. It just seems that a lot of people in the community -- not just parents -- become aware of what scientists had been discovering about how human brains work, and it all seemed to be around the same time. They attributed this to its coverage in the popular press (news magazine's, TV.) Because of the simple, clear ways the media presented this information about what's really happening in children's minds, and what this meant for expanding the mind's potentials, some people begin to wonder why they seemed to see so little attention paid to it in their children's schools. Others began to relate what they were reading and seeing to their own experiences as learners in schools and later in their work lives, and began to wonder about its possible connections to their own learning and that of other adults.

- Teachers and administrators in *Alphatown's* schools were getting the same information. The "new" principles of learning based upon how brain's actually work made sense to them, too. Many of them were validated by their experiences at times when they could work with individual children. In fact, several of the "reforms" they had been trying to make in schools for over thirty years has focused on one or more of those principles. But of course those reforms had never lasted.

When teachers and principals begin to question themselves about why they were not taking more advantage of the mind's natural programming, or worse, were actually going against it --they

seemed to reach a common conclusion: “We know we “should,” but we ”can’t.” Too many other things would also have to be changed, including what the public expected schools to *be* and *do*.

- At about the same time, concerned about their community’s *survival*, the *Alphatown* Chamber of Commerce had brought together individuals from a number of public and private sector organizations in the community. They couldn’t quite get a handle on it, but a mix of economic, social and political factors seemed to be producing a pervasive feeling of hopelessness. One underlying issue that they kept coming back to was their concern for their community’s children and their healthy development in this “crazy” world.

At one of their meetings a young parent noted that new knowledge developed from direct research on brain functioning challenged many practices in their own schools, and that their local system seemed “incapable” of acting on it. In their frustration they began to look for what was “wrong,” ... who to “blame,” ... and who can “fix” it. But they couldn’t seem to find that one person or place in the system that could create specific changes that would impact their children.

Their frustration mounted when they heard the “solutions” of policymakers and researchers pointing to changes in the future, or changes outside the schools-- e.g., teacher training, different policies, increased funding, etc. Or those from angry advocates of wiping out the whole system of public education and starting over so they could make sure it’s done “right.” For their community’s survival, their criterion for changes had to be impact on their children, now, and in their schools.

The more everyone learned about the mind and how best to support its learning and development, the more excited they became by its seeming applicability to those very conditions they had felt were most “wrong” about their schools. And at the same time, they became increasingly aware of the potential in present practices to harm children’s minds. Local government officials, in particular, began to realize that some windows of learning opportunity or development seemingly just come by once. They began to see that there can be consequences for not acting on this “new knowledge,” and they could be much more expensive to deal with later in the children’s lives.

## The Challenge

This added a *time* imperative that had been missing in their previous attempts to improve and change schools. Something had to be done that could impact the learning capacities of *all* their children, and *soon*. But how? How could they create new practices or modify old ones while still meeting the state and district’s goals and standards? How could they simultaneously develop the understandings necessary for community and school system support of new practices? During the process, how could they ensure that no harm would come to the children whose lives they touched as parents and practitioners?

- A working group was established to find a way to answer those questions. Its composition represented a vertical and cross-functional “slice” of those whose work directly or indirectly influenced the healthy development of children and families in *Alphatown*. Several members from the world of work outside of schools had experiences with organizational change and continual improvement strategies. They knew that the community would need to apply strategies and tools that would allow them to develop:

- Awareness of themselves as a purposeful system of purposeful people who needed each other if they were to fulfill their mutual commitment to making a positive difference in the lives of children;

- A sustainable district and community infrastructure that supported this collaborative work in the interest of children ; and
- Compelling reasons that could serve to “drive” everyone through the always difficult experiences of working in new ways and learning from them.

For example, with the understandings emerging from those strategies, the working group from *Alphatown* felt that this approach could help them deal with today’s problems and at the same time create the future they wanted. Each participant felt he/she could make more of a difference with more children and help short-cut the traditional “change” process so all children in the district could gain.

Their belief that this was now *possible* was driven by a fundamental sense that the learning principles emerging from brain research and cognitive science resonated with, and was validated by, their own personal experiences as learners, teachers, parents, or workers. Although for many, this sense of what they intrinsically felt is “right” had been buried under years of exposure to schools, homes, and communities that did not appear to support them. Yet they felt that this basic research, and the practical principles developed from it, were compelling enough to drive questioning that could crack the embedded culture’s sense of the way schools are “supposed to be.”

- This compelling motivation, they recognized, was critical, but not sufficient. The working group members all agreed they still lacked *experience* applying those principles in new and different ways and, as always, the school’s priority for time and resources had to first focus on responses to the needs of today’s children. There seemed to be no solution for them unless learning about “learning” could become a compelling driver and context for discovering for themselves how to apply those principles in their schools and communities.

Moreover, this learning process would have to take place as part of everyday work, not on top of it. First, because, as one member pointed out, “that was the only time and resources they had.” And second, because cultures, and the mental models they support, exist at a deep level of beliefs and unquestioned assumptions. They could not be reasoned away with research data and demonstrations alone. To erode a prevailing culture that had developed from experience, people in the *Alphatown* schools and community would have to have new experiences that caused them to question old practices, and to see more effective ways of working before “letting go” of old models.

The quickest route to understanding the organizational consequences of these new principles, therefore, would be through the *minds* of practitioners and parents who will have to act on them. Since a culture’s “storehouse” is in the minds of the people within it, a new supportive culture might be “re-programmed” if these minds could be linked as part of daily work. Teachers, and those in the system that support his/her work, would need support to work differently in a setting that helps them collectively learn from those experiences.

Learning from new experiences, as an integral part of the district’s and each participant’s personal work, could provide opportunities not only to develop new teaching-learning approaches, but also to create new roles that could be supported by new, sustainable, collaborative relationships throughout the district and community.

The working group felt it had sketched out some of the key requirements for what would have to happen. But they still were not sure about how to meet them since this “model” of change seemed to run against “accepted” theory and practice.

## Gaining Community Commitment

- At a joint meeting of the *Alphatown* City Council, the Chamber of Commerce, and School Board, the working group presented what they saw as the community-wide *scope* of the problem, its *nature* requiring new forms of interaction out of which more effective capacities could be developed in both people and organizations, and the reasons why *Alphatown* needed to begin acting on the conditions “*now*.”

Members of the group from the local business community urged that it also be accepted as a community strategy. They felt that since many of the concepts were similar to the ways they organized their businesses for the accomplishment of important purposes, a productive, mutual support system could be developed within the community that could lessen needs for the schools to look outside for expertise and assistance -- for example in process management.

Two other members who had represented employees of local human service agencies outside the schools agreed, and shared what they felt was a significant learning for them from the initial planning. They had never realized how similar the “front-line” roles of teachers, nurses, and doctors were as they attempted to respond to individual needs. In fact, they had concluded, “*teaching* seemed to relate to *learning* as *curing* did to *healing*.” There seemed much that the managers of the settings in which those “moments-of-truth” took place could learn from each other.

But even with all that local support, some members of the City Council felt uneasy launching into an effort of this scope without really knowing where they were going. They wanted full plans and “blueprints.” They weren’t alone. To most of the educators, and many of the parents, these ideas *seemed* to make sense. But they faced two significant barriers every time they tried to think about applying them. First, many of the “new” instructional approaches required might not match the “mental models” of schooling and teaching that frame the ways most adults perceive what happens in schools. And second, they didn’t have a “method” to attack a problem of this scope. After all they would be held accountable. Their question: Was there a “safe” way they could find out if, and how, these could work in *Alphatown*? And could they do it without first having to change their own mental models?

Much of this hesitancy to get started disappeared, however, soon after a lawyer pointed out that they really had little choice but to begin. If any other community organization, such as a hospital, had access to knowledge as fundamentally important to their work as this brain research was to schools, and they did not use it... their customers could sue them for malpractice.

Something must be done, everyone agreed, and the depth and scope of the necessary changes required a total commitment and approach. The school district would have to work as a single unit - a team committed to changing itself. The community would have to understand how it, too, could work more systemically in support of its children and families.

Many of the working group’s suggestions were accepted, and *Alphatown* committed itself to a *community-based* strategy -- Learning about Learning.

### **Learning about *Learning***

It is now several years later, and here is what we can see as the structure that the people of *Alphatown* have developed to support school and community transformation as part of the way it conducts the business of schooling.

To take advantage of the range of experience and expertise among its staff, the school district functions as a single coherent system whose results depended upon everyone’s contribution. “Think of us as a *One-room School District*” the superintendent had told a recent interviewer.

- They had started by identifying the missing or clogged connections that had been limiting their capacities. Soon after the City Council meeting, an initial community wide meeting was held to establish an initial vision and “system” map for starting their journey. They identified *Alphatown’s* current strengths and weakness as a *learning-centered* system of dedicated professionals, parents, and others concerned about children.

Most helpful for this task had been a scan of the district, provided by a local community college, utilizing the *Malcolm Baldrige* quality criteria. Much like a full-body MRI, it provided sound evidence that they already “were a system” -- but one that had not been able to take advantage of their natural connections and interdependencies.

Working from that initial map, the community and schools were able to determine where to start “re-connecting.” Quality management tools helped them to identify who really needed whom -- their “internal customer-supplier relationships.” Flow charting and systems thinking helped them begin to understand why certain regular activities never improved. At the same time, they had taken advantage of community interest in “wiring” all the schools, and with the help of a local business began to adapt commercially available *groupware* and *intranet* software to support the teams they would be developing.

- This infrastructure now enabled them to organize themselves into collaborative knowledge-building clusters, each nested around a core school. Each building in the district serves as the center of such an *action learning* group. Each core cluster is also nested within a district and community cluster.

#### At the core

The particular focus of each core building’s *action learning* had been chosen by building staffs after a district-wide meeting the first year that had allowed them to take a safe and honest look at the premises upon which they all worked, and compare those beliefs to what now is known about how both children and adults learn. As a group they discussed the consequences for the children and community of not acting on the discrepancies they noted.

Each building in *Alphatown* has chosen to focus on exploring and developing a particular teaching strategy that capitalizes on brain-based research. None would have to take on all of them because they had access to complementary knowledge that developing at the other sites. The *Baker School* chose to work on how teachers could identify each child’s perceptual processing style. Already their learnings had reduced their number of LD classifications, and had led them to explore ways for teachers and students to work together when their styles did not match.

- The *Baker School* cluster consists of the community of adults directly involved with the children in that building. This building-level cross-functional team is linked to other individuals throughout the district (e.g., teachers in other buildings or staff in curriculum and instructional support areas in the central office,) in other human service agencies, and even in businesses, who expressed interest in the particular strategy they are exploring. Many had joined this core cluster via the collaborative knowledge-building electronic infrastructure. As “virtual” core team members, they have provided related expertise that has served as a valuable internal resource for the *Baker School*. The regular, purposeful interactions among and between cluster members could be seen in “real” time and space and, because of the electronic infrastructure linking practitioners throughout the district and community, in “virtual” time and space as well.

- A common purpose and a compelling reason drives their interactions: the challenge of translating what they learn from brain/mind research into knowledge and actions that can impact the children whose lives they influence, and, as they pointed out to a visitor, “...on their watch, not in the future.”

Moreover, since membership in a cluster is not limited to those within a single site, cross-fertilization of ideas across the district occurs informally. New ideas jump to other classrooms and buildings without having to “wait” for someone else’s published research results.

### Middle Cluster

The next cluster level involves the *Baker School* principal, along with other district principals and those central office staff who deal with areas that impact the teaching/learning environment. In *Alphatown* these include people dealing with staffing, professional development, technology, information support, research, health, transportation, and food services.

As a team they have a dual focus: they help each building synthesize and integrate specific learnings from other buildings into their own instructional strategies, and explore ways to support the new forms of teaching/learning environments that are being designed and implemented in the buildings.

Moreover, as “virtual” members of the building teams, their regular interaction with and across teams allows them to begin to synthesize the learnings from the varied building efforts into a common explicit knowledge base that can support and sustain the ways the entire district provides its support. Changes in the ways that “middle management” works were developing concurrent with the classroom functions they had to support.

Already *Alphatown’s* school and community leaders can see the value of a common knowledge base of “what works in *Alphatown*,” open to everyone inside and outside the schools. This has become one of the most significant factors in gaining continuing public and practitioner approval for system-wide changes in teaching roles and the structural relationships necessary to support and sustain them. Former critics now can relate what they see being done in schools to *why* it is being done that way. This base of understanding and support for new roles and relationships now enables the Board to formalize them through new rules and policies.

### Outer Cluster

An outer cluster links the *Alphatown* superintendent with heads of other human service agencies that deal with children and families in the county. This forum has provided additional access to different perspectives on the conditions and problems of child and family development. Through this regular communication interaction, *Alphatown’s* human service agencies had discovered new ways to collaborate that eliminated redundancy among services, and made more effective use of the community’s limited social resources.

And the schools themselves discovered an effective way to address an old dilemma. How, with limited resources and mandate, could they apply their expertise in child development to the needs of children during the five years before they enter school? It started when they re-defined their customers to include those yet to be born, and their parents as their “first teachers.” This resulted in development of several creative strategies, now, school personnel were effectively linked with parents and practitioners in other agencies who dealt with parents and children during those years.

## Measures of success?

In the end, the success of Alphatown's approaches will be not be dependent upon some "final" evaluator's report. The nature of their processes assure that they are continually assessing their progress against their intentions, and modifying their actions to "do it a little bit better next time." Certain things seem to be influencing their continual development in directions of their choosing.

- In this case study, the *possibility* of impacting meaningful classroom change in real time drives continual commitment and support. The opportunity to learn from daily work helps maintain it. The short, open "learning loops" reduce risk for both children and adults.
- Moreover, the *Alphatown* strategy is supported by the same sound cognitive principles being applied to children's learning. The nested clusters are driven by a basic human need for *sense-making*. Each level is addressing its participants own needs to understand and make sense of what they have to deal with as part of their work, and they are functionally linked to the "system's" similar need to make sense -- to bring all those learnings together in a framework of support that can be maintained and sustained.
- The district and community are "mentoring" themselves by providing scaffolds that support the learning of new skills while unlearning old ones. Adults serve not only as managers, but as models of learning expertise, as they build on the district's knowledge-building scaffold to create school-wide or district-wide knowledge building communities of students, teachers, administrators, and parents.

As this approach to organizing the school system's work continues to develop in *Alphatown*, what will be the indicators of systemic change? If the product of learning is an enhanced capacity to act more effectively in the future, what are indicators of changes in the district and community's capacity?

Criteria for judging the on-going effectiveness of Alphatown's approach might be developed from issues identified recently by the *Institute for Responsive Education*. They address conditions for changing and sustaining new capacities in schools as "prerequisites for "scaling up."

"The real question we must address is this: What training and resources do teachers and school communities need to develop and implement their own meaningful high standards? The current focus of most professional development efforts (merely to increase teachers' content expertise) is not the answer. ...action research and relationship skills may be what teachers need most (more than content upgrades)...."

Teachers need to learn how to gather the information that will enable them to make tough choices about curriculum priorities for their own schools and then assess the results of changes in curriculum. They need coaching that will help them work more collaboratively. This kind of 'action research' is best done in teams with other teachers across grade levels, as well as with parents, community members, local employers, and older students, so that everyone's concerns are heard and all understand the need for and the goals of change.

Such a team effort must also include social-service providers in order to better understand and respond to the needs of students and their families. Finally, teachers need encouragement to try new approaches to teaching and curriculum that make all learning more active and personalized.

This kind of professional development does not often happen in a classroom with other teachers, and rarely can it be facilitated by university professors. It is best done in the field through 'research and development,' where there is engagement with real tasks, on-site coaching, and time to reflect."

Against those criteria, *Alphatown* appears to be on the right track. But what about their efforts to change the *culture* of expectations that had limited them? How were they addressing the assumptions and "mental models" people carry around with them about the work of schools?

Here we might turn to Peter Senge's requirements for creating "learning organizations." For example, here is how *Alphatown's actions* seem to fit with Senge's thoughts and concepts.

### SENGE

"Learning organizations are spaces for generative conversations and concerted action. In them, language functions as a device for connection, invention, and coordination. People can talk from their hearts and connect with one another in the spirit of dialogue. Their dialogue weaves a common fabric and connects them at a deep level of being. When people talk and listen to each other this way, they create a field of alignment that produces tremendous power to invent new realities in conversation, and to bring about these new realities in action."

"In learning organizations, people are always inquiring into the systemic consequences of their actions, rather than just focusing on local consequences."

"Learning arises through performance and practice."

"...the learning space must be shamelessly integrated into the work space for an ongoing cycle of reflection, experimentation, and action."

"...learning is too important to leave to chance. It will not be adequate to offer training and hope that people will apply new insights and methods.

Nor will help from consultants be sufficient to bring about the fundamental shifts in thinking and interacting and the new capabilities needed to sustain those shifts. It will be necessary to redesign work if progressive ideas are to find their way into the mainstream of management practice. "

### Alphatown

The community's knowledge-building strategy uses its intranet scaffold to support meaningful dialogue about action among an organization of connected learners.

The capability of the nested knowledge-building clusters to reach vertically into organizations, and horizontally across organizations enables relevant access to others' perspectives.

Quality management principles support the continual application of learning-derived improvements. Moreover, the nature of "implementation" process derives from the same principles.

The combined knowledge-building, vertical team, and quality management strategies make the entire school system a "classroom" for *in-the-job* learning.

The knowledge-building leadership structures provide places -- virtual and physical -- where teams can meet to safely reflect on structures, identify counterproductive behaviors, experiment with alternative strategies, and design solutions for actual work settings.

“Process and content are inseparable. ...The separation between the issues we are interested in and the processes we might use to learn about them may be the primary obstacle to potential breakthroughs.”

“Learning occurs between a fear and a need. On the one hand, we feel the need to change if we are to accomplish our goals. On the other hand, we feel the anxiety of facing the unknown and unfamiliar. To learn significant things, we must suspend some basic notions about our worlds and ourselves. This is a frightening proposition for the ego. ...(especially) when we question deep beliefs and mental models. ...our mental models are not like pieces of clothing that we can put on and take off. They are basic constitutive structures of our personality. Most of the time we *are* our mental models.”

“... there are no problems ‘out there’ to be solved independent of how we think and act in articulating these problems. ...Only with the support, insight, and fellowship of a community can we face the dangers of learning meaningful things.”

“If we turn to leaders because we hope they know more, have experienced more, are wiser... then this explains why today we must turn to ...developing leadership communities. ... How those predisposed begin to know each other and to work together involves a cycle of community building activities and practical experimentation. The former must be intense enough and open-ended enough to foster trusting personal relationships and to lay a foundation of knowledge and skills. The latter must offer realistic starting steps in applying new knowledge and skills to important issues.”

“Building learning organizations is not an individual task. It demands a shift that goes all the way to the core of our culture ...a culture that fragments our thoughts, that detaches the world from the self and the self from the community.

...We need to invent a new learning model for business, education, health care, government, and family. This invention will come from the patient, concerted efforts of communities of people invoking aspiration and wonder. As these communities manage to produce fundamental changes, we will regain our memory--the memory of the community nature of the self and the poetic nature of language and the world--the memory of the whole.

With process software [that serves to translate tacit experiences into explicit knowledge] supporting continual dialogue about effectively responding to children’s needs, process is always part of the content.

The *system visioning* processes in the initial phases of implementation are structured to confront directly the old mental models or paradigms we carry around in education.

Addressed by the concept of nested knowledge-building communities.

The approach taps a school system’s intrinsic leadership -- based on a hierarchy of knowledge.

Here is where the *meta-level* knowledge-building community becomes an important component of the strategy. By linking the district to the expertise, perspective, and desire to learn of external “experts,” it can facilitate the transfer of the district’s knowledge to others, and provide outside expertise to the district in a relevant format.

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