The New Paradigm of Public Education

By Michael T. Martin,

There is an emerging consensus from research on effective schools that, in the modern world, successful student learning requires an entirely different **paradigm** for structuring schools that repudiates the traditional manner in which public schools have operated. The research from many sources clearly indicates it is necessary to essentially reconstruct the traditional way schools operate day to day, eliminating the isolated teacher and mandating the collaborative management of schools to develop professional expertise as a normal process of school functioning.

School district governing boards have to make the long-term commitment to transform public education from an old educational **paradigm** based on the once emerging industrial age to a new educational **paradigm** based on today's emerging information age. Only governing boards can bring the organizational knowledge of community organizations that have already made this paradigmatic transformation into understanding and support for public education making the same transformation.

In a May, 2011, report "Standing on the Shoulders of Giants" for the National Center on Education and the Economy, Marc S. Tucker, President and Chief Executive Officer of NCEE, summarized his "22 years of research on the factors that account for the success of the countries with the best education record" and noted "When compared with other countries, the United States appears to see education reform as a process of adding programs to the corpus of programs already in place." Lamenting the ineffectiveness of piecemeal reforms advocated by interest groups he states "Then we wonder why the effects of even the most powerful interventions are almost always trivial." Tucker comments further on the futility of piecemeal reforms and then states "The one thing that could have a very large effect – the design of the system itself – is no one's responsibility."

Tucker explains that "Every high-performing country the National Center on Education and Economy has studied has a unit of government that is clearly in charge of elementary and secondary education." He provides examples but then notes "No unit of government in the United States occupies such a position" and states a little later "The result is that no level of government in the United States thinks of itself or is thought of by others as the place where the buck stops …." A couple of pages later he reiterates:

> The reality is that local control is mostly honored in the breach. Textbook manufacturers control the curriculum actually taught, to the extent that anyone does. Districts must choose among national tests made by national testing companies. The curricula of schools of education are more influenced by the curricula of other schools of education around the country than by the state in which they are chartered. Local control is a chimera. But no one else is in control either.

The clear admonition is that the crucial change in the design of the education system itself is simply being ignored by current locally elected governing boards. In the absence of locally elected governing boards accepting the role of implementing the new **paradigm** of public education, this vacuum is

perceived by many as a role that some other authority must fill in order to implement "reform." The traditional **paradigm** of public education lacks credibility in the modern world and its persistence in public schools essentially discredits public education in the United States.

Collaborative Leadership

After studying 20 improving school systems worldwide, the McKinsey & Company's 2010 report "How the world's most improved school systems keep getting better" concluded:

> It is clear from talking to the leaders of the 20 systems studied here, and more widely, that sustaining change requires altering the very fabric of the system – changing not just the way teachers' teach and the content of what they teach but how they think about teaching. Sustaining improvements focus on producing a new professional pedagogy.

The McKinsey report quoted a Boston public school system leader: "For student learning to improve, we had to improve teaching and learning practices in classrooms. And for that change to stick, the culture of classrooms and schools needed to change."

What the McKinsey & Company report found as "a new professional pedagogy" common to those 20 school systems recognized for improving student achievement was:

> … they report a cultural shift, moving from an emphasis on what teachers teach to one on what students learn. This shift results both from an emphasis on studying student learning progress and from working together to develop approaches to improve that learning. System leaders believe this shift is absolutely necessary if all students are to learn successfully.

"A new professional pedagogy" involves teachers "working together to develop approaches to improve" the learning of students by "an emphasis on studying student learning progress." As Harvard professor of educational leadership Richard Elmore wrote in a 2002 paper titled "Bridging the Gap Between Standards and Achievement: The Imperative for Professional Development in Education":

> The work day of teachers is still designed around the expectation that teachers' work is composed exclusively of delivering content to students, not, among other things, to cultivating knowledge and skill about how to improve their work. The problem with this design is that it provides almost no opportunity for teachers to engage in continuous and sustained learning about their practice in the setting in which they actually work, observing and being observed by their colleagues in their own classrooms and in the classrooms of other teachers in other schools confronting similar problems of practice.

This is an entirely different **paradigm** from traditional ways of operating schools as "exclusively of delivering content to students." Teachers are no longer responsible just for knowing their subject and spewing it, but must adopt "an emphasis on studying student learning progress" and "working together to develop approaches to improve that learning" as a way of "cultivating knowledge and skill about how to improve their work." The new **paradigm** requires transforming teachers into a self-developing professionalization of expertise about how students learn and how best to facilitate it.

The new **paradigm** requires governing boards to rethink the way they structure, support and fund school operations. This is not simply what Tucker sneeringly referred to as "education reform as a process of adding programs to the corpus of programs already in place" but rather an entirely different "cultural shift" as the McKinsey & Company noted of the world's best school systems: "changing not just the way teachers' teach and the content of what they teach but how they think about teaching." As professor Elmore explained in his 2002 paper about the existing structure of isolated teachers:

> In order for people in schools to respond to external pressure for accountability, they have to learn to do their work differently and to rebuild the organization of schooling around a different way of doing the work. If the public and policymakers want increased attention to academic quality and performance, the *quid pro quo* is investing in the knowledge and skill necessary to produce it.

The *quid pro quo* of more effective schools is investing in the "opportunity for teachers to engage in continuous and sustained learning about their practice" through the collaboration of "observing and being observed by their colleagues in their own classrooms and in the classrooms of other teachers" for the purpose of "cultivating knowledge and skill about how to improve their work."

In support of their finding collaboration so important, the McKinsey report cited:

> In his synthesis of over 50,000 studies and 800 meta-analyses of student achievement, John Hattie drew one major conclusion: "The remarkable feature of the evidence is that the biggest effects on student learning occur when teachers become learners of their own teaching." This is the essence of collaborative practice: teachers jointly engaged in an empirical, routine, and applied study of their own profession.

The "cultural shift" of having teachers work collaboratively together "studying student learning progress" as the normal process of school functioning is the crucial part of the transformation into highly effective schools. The McKinsey report describing "improved school systems" worldwide spotlighted teacher collaboration as the sine qua non of school improvement: "We encountered collaborative practice wherever there are high-performing schools."

One of the consequences that their report described as characteristic of transforming school practices into a collaborative endeavor among teachers was:

> … it had moved their schools from a situation in which teachers were like private emperors, to one where teaching practice is made public and the entire teaching profession shares responsibility for student learning.

Teachers are no longer responsible solely for the students in their classrooms, but as a collaborative team responsible for all students in their school.

In a fall, 2011, Values in Urban Education publication by the Annenberg Institute for School Reform professor Linda Darling-Hammond, in her essay "Effective Teaching as a Civil Right: How Building Instructional Capacity Can Help Close the Achievement Gap," wrote:

> The researchers found that peer learning among small groups of teachers was the most powerful predictor of improved student achievement over time.

In Marc Tucker's report "Standing on the Shoulders of Giants" he notes:

> In Japanese schools, the faculty work together to develop new courses or redesign existing courses to make them more engaging. Once developed, that course is demonstrated by one of the teachers and critiqued by the others and revised until the faculty is happy with it. Then a particularly capable teacher will demonstrate it for others and critique their practice when they in turn teach it. Throughout, the development process calls on the latest research. Teachers who get very good at leading this work are often called on to demonstrate their lessons to other schools and even to teachers in other districts and provinces. In this way, instructional development and professional development are merged and professional development becomes an integral part of the process of improving instruction in the school, informed by the latest and best research.
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> In fact, Japanese teachers are provided with research skills in their pre-service training, so that this local, teacher-led development process is supported by the kind of research skills needed by teachers to make sophisticated judgments about the effectiveness of their local development work. In the United States, teachers are generally the objects of research rather than participants in the research process itself. The topics for professional development are often chosen by administrators in the central office rather than by teachers seeking to improve their own practice on terms of their choosing. Because the topics chosen for professional development are typically not the topics the teachers would have chosen, they often perceive the professional development they get as not particularly helpful.

The Deming Quality Approach

The late W. Edwards Deming, the American management expert for whom Japan named its top industrial quality prize, was best known for his "statistical management" ideas developed from his experiences in World War Two war-plants where production soared by using data to inform decisions about manufacturing processes. Deming's aphorism for making decisions was "In God we trust, everyone else bring data."

Deming's teachings on how to employ data in managing organizations turned traditional ideas of organizational management upside down when he redefined management as:

> The job of a supervisor is not to tell people what to do or to punish them, but to lead. Leading consists of helping people do a better job and of learning by objective methods who is in need of individual help.

Deming's method for producing quality was that management focused on "helping people do a better job" by providing "individual help" through continuous staff development. Often called "worker empowerment" Deming defined effective management as the collaborative process of management facilitating employees.

As far back as a September, 1999, report "The Importance of Leadership: The Role of School Principals," by The PricewaterhouseCoopers Endowment for The Business of Government, two political science professors interviewed 8 New York City principals of high-performing public schools and reported "we identify four commonalities across the actions of the principals we studied that contributed to their successes." One of those four was "A coherent educational mission throughout all grades in the school helps mobilize the staff and the school community, though which theme is selected may matter less."

Thus the importance was not the mission itself (i.e. theme) but rather the creation of a unifying effort "throughout all grades" among the staff (i.e. collaboration). Well into the report the authors cite:

> Another common theme in the leadership style of the principals we studied was their respect for the teaching profession. To varying degrees, these principals gave autonomy to the teachers in their classrooms – because they trusted their teachers and had worked hard to make sure that teachers and staff were united in their beliefs and pedagogical approaches. To do this, staff development is clearly important. Teachers were made important members of the school community by their involvement in administrative decisions, and they helped to set the goals in several schools.

The key point is that "principals gave autonomy to the teachers in their classrooms" ONLY after the teachers were professionalized into collaborative management teams in a process of staff development. The PricewaterhouseCoopers report independently found a dozen years ago that in highly successful public schools the characteristic difference was collaborative management: "Teachers were made important members of the school community by their involvement in administrative decisions…."

Similarly, a 2010 report about the Wallace Foundation's National Conference (October 14-16, 2009) titled "Education Leadership," cited:

> In schools that he studied, the most successful principals developed team-oriented cultures "where everyone was expected to do their part as members of one or more teams working together toward the same goals," said University of Washington professor Bradley Portin, who helped lead a study on effective leadership.

In a short March, 2011, summary of "Research Findings To Support Effective Education Policies: A Guide for Policymakers" by the staff of The Wallace Foundation they focused on the importance of the principal but noted: "To turn around schools, principals need to share decisionmaking."

In a May 2007 report titled "Similar English Learner Students, Different Results: Why Do Some Schools Do Better" the combined resources of the Stanford University School of Education, WestEd, American Institutes for Research, and EdSource examined a "large scale survey of California elementary schools serving low-income and EL students." They looked at the English Learner (EL) scores on the California Academic Performance Index (API) "to identify how well schools are doing with their English learner student population." They found:

> Taken together, our findings indicate that higher EL academic achievement in California is associated with schools where teachers and principals are working together to create a focused, achievement oriented climate, are holding each other accountable for the work, are supported by district leadership that ensures resources and expects accountability, and are deliberately attending to the school's English learner students as an important part of the effort.

The crucial point is that even in the most difficult circumstances, with low-income English Learners, researchers found that academic success was marked primarily by "teachers and principals working together" rather than by some extraordinary qualities of the teachers or principals themselves. Collaborative management "supported by district leadership" was the key to success.

In another 2007 report from the Center for Teacher Quality titled "A Possible Dream, Retaining California Teachers So All Students Learn" by Dr. Ken Futernick, researchers conducted a survey of nearly 2,000 current and former teachers to ascertain "the professional and personal reasons offered by those who leave teaching and those who remain in the classroom—'leavers' and 'stayers' in the language of this study." The researchers reported "When leavers described the features of their working environment that were most problematic, they pointed to a broad spectrum of problems we call inadequate system supports …."

A lack of administrative support is a quite common finding of surveys of teachers who leave the profession. However, the researchers in "A Possible Dream" reported something quite distinctive about those teachers who stayed as teachers:

> Not surprising, when we asked "stayers" why they chose to remain in the classroom, they frequently cited the flipside of inadequate system supports and pointed to the presence of effective system supports such as adequate resources, adequate time for planning, and effective support from the district office. What did surprise us was that collegial supports—the quality of relationships among staff—mattered even more. And the one factor that mattered the most to stayers was the opportunity they had to participate in decision-making at the school.

Collaborative management, thus, is the quintessential element when researchers examine schools with high academic achievement: not only does teacher effectiveness improve immensely when the teachers collaborate among themselves but when the principal involves the teachers in collaborative management – "the opportunity they had to participate in decision-making" – the retention of these highly effective teachers increases as well.

This is particularly true with minority teachers. The Consortium for Policy Research in Education set out specifically to understand minority teacher shortages. In their report "Recruitment, Retention and the Minority Teacher Shortage" Richard Ingersoll and Henry May discovered that minority teachers were much more likely to leave teaching, primarily because "The schools in which minority teachers have disproportionately been employed have had, on average, less positive organizational conditions than the schools where White teachers are more likely to work." In particular they noted:

> The organizational conditions most strongly related to minority teacher turnover were the level of collective faculty decision-making influence and the degree of individual classroom autonomy held by teachers; these factors were more significant than were salary, professional development or classroom resources. Schools allowing more autonomy for teachers in regard to

> classroom issues and schools with higher levels of faculty input into school-wide decisions had far lower levels of turnover.

The McKinsey report on the world's most improved school systems recognized the significance of collaborative management:

> The collaborative practices described here, supported by a system of professional development, can unleash sustained improvement; over time shifting the source of a system's improvement away from central leadership to the educators themselves. Teachers are in a position to sustain improvement because they draw motivation from seeing the impact on their own work, as well as from their ownership in shaping educational practice.

This is the crux of the **paradigm** shift: there has been a misconceived notion of a focus on teacher quality and teacher effectiveness as the root of successful education, with the implication that improving traditional isolated teachers can create, by itself, improved student achievement. But the research evidence is making clear the fundamental fallacy of holding isolated teachers alone responsible for student achievement. High student achievement is consistently found to be the consequence of collaboration among teachers and principals who have internalized professional development within their daily practices.

The inability to shift away from the traditional paradigm of the isolated teacher has stymied educational progress for decades. In 1984 Susan Rosenholtz of Vanderbilt in "Myths: Political Myths About Reforming Teaching" wrote "The assumption that, given proper motivation, teachers can improve individually is refuted emphatically by research showing how organizational conditions in schools can hinder individual improvement." She also noted about the typical lack of collaboration among teachers: "As a result, teachers benefit little from the experience of colleagues." And she specifically cited, over a quarter century ago, "organizational conditions" under the traditional **paradigm** as the culprit for failure.

The importance of having an organizational structure in which the principal and teachers collaborate in school management is reinforced by research findings that both teachers and principals are crucial to student achievement. In 1979 the Federal Reserve Bank of Philadelphia teamed up with the Philadelphia School District Governing Board to utilize the research capabilities of Federal Reserve staff in finding what characteristics in the Philadelphia schools were associated with the highest gains in fourth grade reading scores. They found that the usual teacher attributes showed little correlation with reading gains, even whether the teacher had prior training in teaching reading. But, their study found a strong correlation of reading gains with whether the principal had prior training in teaching reading.

Thus in an empirical study over 30 years ago by Federal Reserve research economists they found the principal proved to be more important in achieving reading gains than the classroom teacher. It is crucial to recognize that simply improving teachers is not going to work; the study found that having teachers trained in reading did not correlate with increased reading scores. But it is also crucial to recognize that the increase in reading scores required a principal trained in teaching reading because the principal is not in the classroom and thus the implication of this *empirical* finding is that somehow the principal and

teachers collaborated in improving student reading scores. In a December 20, 2010, Hechinger Report titled “Improving teachers means improving principals, too,” Alan J. Borsuk wrote:

> An analysis of a large body of education research conducted a few years ago concluded that a third of the effect that a school had on students came from how teachers do their jobs. But a quarter of the effect – the second largest factor – came from principals. An author of that study, Karen Seashore Louis of the University of Minnesota, said new research in which she has been involved sheds more light on that issue. “Principals have a very strong effect on student learning, but it’s primarily indirect and it’s primarily because of the way their behaviors encourage teachers to work together on improving their professional practice.”

It is the last sentence of that paragraph which is simply not conceptualized by those with the traditional **paradigm** of education. Research over many years indicates that high student achievement is a consequence of the collaborative management of schools in which the teachers and principals work together to improve their professional practice. It is crucial to re-examine Deming’s redefinition of management in order to understand the role of the principal:

> "The job of a supervisor is not to tell people what to do or to punish them, but to lead. Leading consists of helping people do a better job and of learning by objective methods who is in need of individual help."

The key phrase here is “objective methods.” As Deming famously said “In God we trust, everyone else bring data.” The crucial distinction is that “objective methods” reflect empirical evidence devoid of preconceived ideas. To accomplish this, Deming instructed managers to “drive out fear” so that data would not be corrupted by anticipations of how it might be used. And he stated that managers should not rank or evaluate employees because it is the structure of the organization, not the employees, which primarily determines the functional results. This is a different **paradigm** from conventional practice.

Marc Tucker, writing in “Standing on the Shoulders of Giants” proclaims near the end of his report:

> It turns out that neither the researchers whose work is reported on in this paper nor the analysts of the OECD PISA data have found any evidence that any country that leads the world's education performance league tables has gotten there by implementing any of the major agenda items that dominate the education reform agenda in the United States. We include in this list the use of market mechanisms such as charter schools and vouchers, the identification and support of education entrepreneurs to disrupt the system, and the use of student performance data on standardized tests to identify teachers and principals who are then rewarded on that basis for the value they add to a student's education or who are punished because they fail to do so.

Again and again, research shows that highly successful schools employ a completely different **paradigm** from traditional education, and from traditional education reforms: one that involves a collaborative management focus on making shared decisions based on objective evidence. However, successful school

restructuring involves more than just "teachers and principals working together." It requires a structural commitment from governing boards to institute an emphasis on collaborative management that embeds staff development in the daily functioning of schools so teachers and principals work continuously together on improving their professional practices. Professor Elmore noted this when his 2002 paper described the importance of collaborative professional development:

> This view derives from the assumption that learning is essentially a collaborative, rather than an individual, activity—that educators learn more powerfully in concert with others who are struggling with the same problems—and that the essential purpose of professional development should be the improvement of schools and school systems, not just the improvement of the individuals who work in them. The improvement of schools and school systems, likewise, has to engage the active support and collaboration of leaders, not just their tacit or implicit support, and this support should be manifested in decisions about the use of time and money.

It is the crucial role of district governing boards "in decisions about the use of time and money" that either empowers or stymies the transformation of education into this new paradigm where "The improvement of schools and school systems" is embedded into the very daily functioning of schools.

The 2010 book "Organizing Schools for Improvement: Lessons from Chicago" was the culmination of a 15 year longitudinal research project by the Consortium on Chicago School Research (CCSR) at the University of Chicago. Anthony S. Bryk, president of the Carnegie Foundation for the Advancement of Teaching and a leader of the CCSR study, wrote in Kappan magazine "How we organize and operate a school has a major effect on the instructional exchanges in classrooms. Put simply, whether classroom learning proceeds depends in large measure on how the school as a social context supports teaching and sustains student engagement."

One highly successful Chicago principal, Bonnie Whitmore, was quoted in the prologue to the book "Organizing Schools For Improvement":

> I can't be the leader of everything, and there are leaders within school, people with strengths and talents. As the overall leader, I have to allow these other leaders to emerge … I look at myself more as a facilitator than someone who's in charge or something, because we are all part of this.

Notice her paradigmatic echoing of Deming's definition of modern leadership "as a facilitator" of professional practices rather "than someone who's in charge" giving orders. Highly successful schools worldwide operate in an entirely different manner from traditional education, and it is very similar to the transformation that occurred under the teachings of quality management guru W. Edwards Deming.

The primary task of management in the information age is to ensure that organizations have a structure that embeds a process of continuous improvement in making collaborative decisions based on evidence obtained by objective methods. In the modern world, an organization should be structured to facilitate the acquisition and utilization of objective evidence in a continuous day to day process of improvement.

The key word here is “continuous” because in the rapidly changing modern world the transformation must become an embedded process in the very functioning of the organization.

Data is one form of “objective evidence” that allows teachers jointly engaged in an empirical study of their own profession to avoid conflicting opinions and myths in order to achieve an understanding of how students learn. It is the acquisition and utilization of data obtained by objective methods that facilitates the collaboration necessary for transforming schools into highly effective learning organizations. Data-based decisions require a new **paradigm** of understanding how organizations need to be structured in order to produce quality outcomes after thinking carefully about objective evidence.

Eliminating the isolated teacher

In a June 20, 2011, blog post by Joe Siedlecki on the Michael and Susan Dell Foundation website, he detailed the reality behind the use of data in education:

> Today the Council of Chief State School Officers released their roadmap for “Next Generation Accountability Systems.” The roadmap is a step in the right direction, but unless accountability is coupled with a significant investment in providing educators with formative student performance data, training in how in interpret and use the data, and dedicated time to analyze and act upon the information it will not result in much real change in student performance.

The “dedicated time to analyze and act upon the information” is part of the crucial structural changes necessary to allow teachers to “use the data” assuming they have and can interpret it. More importantly, there must be an institutional implementation of data utilization where all teachers collaborate in making logically consistent interpretations and decisions from available data.

In a 2010 National School Boards Association (NSBA) report titled “Data Conversations” produced in conjunction with the SIF Association, an international collaborative to assure interoperability among education data systems, the report noted that modern education requires the collection and analysis of student achievement data in order to evaluate and improve education programs.

Although their 20 page report concentrated primarily on encouraging school governing boards to implement the data acquisition programs that would acquire and organize the data, the report was very adamant in a specific section headed “Organizational Change In Closing The Achievement Gap”:

> Organizational structure is one of the most important components. Change management without structure to sustain that change will cause failure and unnecessary stresses to the organizational structure. Without the underlying foundation in place, the support and follow-through will not occur.

In other words, even if school districts become awash in objective data, it will be counter-productive and “cause failure” unless a structural change in the way schools are organized is also implemented in order to utilize the data collaboratively. In other words, you cannot successfully operate schools in the traditional manner: it “will cause failure.” Without the underlying foundation of a structural change in

education, little use will be made of data. The report overall provided a bullet point list of 10 practices to achieve success that "must be adhered to." In that list were:

- Active engagement of teachers in school leadership and decision-making
- Substantial time for collaborative planning and options for professional development
- Small learning communities of educators

The primary structural change implicit in those bullet points is that traditional passive isolated teachers have to be eliminated: teaching must include active involvement in the collaborative operational management of schools. In this NSBA document on the use of data in education, one crucial practice that "must be adhered to" was identified as the "Active engagement of teachers in school leadership and decision-making." In a generic 1997 federal report "Serving the American Public: Best Practices in Performance Measurement" the authors noted:

> Employees are most likely to meet or exceed performance goals when they are empowered with the authority to make decisions and solve problems related to the results for which they are accountable. In many ways, accountability is analogous to a contract between manager and employee, with the manager providing a supportive environment and the employee providing results.

Implicit in that "supportive environment" is the second bullet point above: "Substantial time for collaborative planning and options for professional development." University of Toronto professor emeritus Michael Fullan, writing in an Education Week commentary (June 17, 2009) titled "The Fundamentals of Whole-System Reform" noted that a successful program in Ontario, Canada, involving 4,000 elementary schools and 900 secondary schools in 72 districts developed "six fundamentals" for successful reform:

> First, develop the entire teaching profession. The basic premise is respect for teachers and for professional knowledge, but this is accompanied by intensive development of the profession to a high standard of practice based on evidence. You cannot have whole-system reform unless all of the teachers are working toward this goal. It is easy to get wrong.

Marc Tucker in "Standing on the Shoulders of Giants" also referred to Ontario, Canada, as an example, noting:

> The government of Ontario did not predicate their reform program on replacing its current teacher workforce with a new workforce. They did not think they needed to. They asked themselves how they could get much better results from the workforce already in place. The answer they came up with was to make peace with the teachers unions that had been demonized by the previous administration and with the teachers that had been so badly demoralized and they invited them to join them in thinking through a reform program that would improve student performance.

Collaborative management was the key to school improvement: to eliminate the isolated teacher by involving all teachers in a collaborative "intensive development of the profession to a high standard of practice based on evidence." The acquisition and utilization of objective evidence in professional development requires a new **paradigm** of educational structure. Professor Elmore was more emphatic:

> In fact, the existing structure and culture of schools seems better designed to resist learning and improvement than to enable it. School systems use a more or less standard model for handling issues of professional development, and this model is largely, if not entirely, at odds with the consensus about effective practice.

Elmore's point was that the existing structure of schools is counterproductive, noting elsewhere:

> I have also argued that there are deep organizational and cultural reasons why schools and school systems are not likely, in their present form, to make effective use of professional development. In other words, to use professional development as an instrument of instructional improvement, schools and school systems will have to reorganize themselves in order to make substantial changes in the conditions of work for teachers and students.

The transformation of Professional Development

That reorganization involves the third "must be adhered to" bullet point of the NSBA report Data Conversations: "Small learning communities of educators." In the 2010 book "Organizing Schools for Improvement: Lessons from Chicago" Bryk explained that their research found:

> … schools in which student learning improved used high-quality professional development as a key instrument for change. They had maximum leverage when these opportunities for teachers occurred in a supportive environment (that is, a school-based professional community) and when teaching was guided by a common, coherent, and aligned instructional system.

The book "Organizing Schools for Improvement: Lessons from Chicago" summarized the findings of their 15 year longitudinal study into five essential supports schools needed to succeed. They defined the five essential supports as:

1. Leadership "with principals as catalytic agents for systemic improvement."
2. Parent-community ties including "strengthening the network among community organizations."
3. Professional capacity that implements a program of continuous collaborative improvement.
4. A student-centered learning climate including "a strong sense of shared professional responsibility."
5. Instructional guidance that clarifies the scope and sequence of the curriculum content.

However, the CCSR report noted that these are not separate efforts, but rather described them as akin to the ingredients of a cake, omitting any one of which ruins the cake. They described these as "mutually reinforcing activities" necessary to achieve school improvement.

The CCSR "essential support" #1 of "principals as catalytic agents for systemic improvement" is, of course, crucial. But it is important to understand what they conceive of as the primary role of the

principal. The authors echo Bonnie Whitmore in stating: "While a principal holds substantial role authority to promote change, no one person can transform a school on his or her own. In the end, some form of more distributive leadership needs to emerge."

They explain professional capacity as having "four elements":

1. **Quality of human resources:** Skillful teachers choose appropriate books and other materials, leverage technology, know how to convey ideas effectively, and motivate students to master basic skills and apply them in the context of complex problem-solving situations.
2. **Quality of professional development:** Recent research underscores the importance of teachers' continued engagement in professional development that directly relates to a school's instructional improvement priorities.
3. **An orientation toward continuous improvement:** The faculty must bring a sense of agency to their work that embodies a belief that they have something important to contribute.
4. **Professional community:** In general, a school-based professional community entails new work arrangements for faculty that (1) make teachers' classroom work public for examination by colleagues and external consultants; (2) institute processes of critical dialogue about classroom practices …; (3) sustain collaboration among teachers that focuses on strengthening the school's instructional guidance system.

In item 4, the ellipses in (2) refers to a parenthetical "for example" that reads "what is and is not happening in our classrooms? How do we know that something is actually working? Where is the evidence of student learning? Are there other practices that might work better, and how might we figure this out?" In other words, a professional community employs a "critical dialogue" that calls on teachers to collaborate on critiquing each other with objective evidence. The authors note:

> Institutionalizing a continuous improvement process within a school requires teachers to relinquish some of the privacy of their individual classrooms to engage in critical dialogue with one another as they identify common problems and consider possible solutions to these concerns.

What is critical to understanding how to restructure public schools for improved academic achievement is the fundamental understanding that individual teachers in isolated classrooms represents a failing organizational structure. Highly successful education involves collaborative practices both between teachers, and between principals and teachers, with the equally fundamental understanding that continuous staff development conducted by the teachers themselves in a professional learning community is the foundational professional process of the modern educational organization.

In another section of NSBA's publication Data Conversations titled "Professional Development to Effect Change" the report clarified:

> Devoid of professional development, change will not occur. Change management must be structured, intentional and planned. … In addition, the support structures call for designing professional development to be maintained. Professional development for dialogues around

> data use, types of data and technology needed, does not simply happen over a short period of time. It should be sustained and continuous for genuine data-driven decision making.

The capacity of today's traditional isolated teachers to acquire and correctly interpret data of varying quality is near zero. Data requires an understanding of quality and integrity in statistical analysis in order to correctly interpret the data. It is a form of professional expertise unavailable within traditional education structures of isolated teachers. As Marc Tucker noted in his essay "Standing On the Shoulders of Giants," this understanding is part of the fundamental pre-service training of Japanese teachers:

> In fact, Japanese teachers are provided with research skills in their pre-service training, so that this local, teacher-led development process is supported by the kind of research skills needed by teachers to make sophisticated judgments about the effectiveness of their local development work.

Embedded staff development allows teachers to collaborate and corroborate data analysis activities to forge a consensus of change management provided they understand the language of numbers.

However, this presupposes an organizational structure that exists to facilitate collaboration and staff development. As professor Elmore wrote in his 2002 paper:

> … the existing occupational and career structure in schools and school systems is completely inadequate as a basis for improvement. Teaching is a largely undifferentiated occupation, while improvement demands that it become more differentiated—allowing teachers who have developed strong expertise in particular domains to lead the improvement of instruction in those domains by working as mentors, coaches and professional developers.

Professionalizing Education

In their November, 2009, issue Kappan magazine published an analysis of teaching by James Stigler and James Hiebert titled "Closing the Teaching Gap" as a ten-year follow-up to their 1999 book "The Teaching Gap" that analyzed international differences in teaching. They reported:

> "We're convinced that the hard work of improving teaching can't succeed without changes in our culture of teacher learning. Teacher learning is the key to improving teaching. But not any kind of teacher learning will do. Listening to experts during special professional development days does not translate into improved teaching. Effective teacher learning must be built into teachers' daily and weekly schedules. Schools must become the places where teachers, not just students, learn."

Stigler and Hiebert gave as an example "Lesson Study" used in Japan for teachers to collaboratively use their professional knowledge to analyze each other's teaching. The authors noted "Teachers in lesson study groups are not only improving their own knowledge and skills but are also contributing to a knowledge base that may, potentially, inform more permanent improvements over time. Lesson study shifts our focus from teachers to teaching, a necessary shift if teaching is ever to become a knowledge based profession."

A necessary **paradigm** shift. Notice here that two professors, with long-standing research into teaching, off-handedly submit that there is some doubt if teaching will ever develop a body of knowledge to become "a knowledge based profession" UNLESS there is a restructuring of how schools operate to embed a mechanism for developing professional expertise. Stigler and Hiebert in their Kappan article on "Closing the Teaching Gap" wrote:

> The United States has developed professional development practices for teachers that have become ingrained in the culture. These usually involve professional developers (presumed experts) presenting workshops for teachers during specially designated days during the school year. These professional development practices, just like teaching methods, have become so common that they're almost invisible, accepted as the way things are done, though the results of these practices have produced few changes in teaching.

In other words, within the existing traditional **paradigm** of education, professional staff development has "produced few changes in teaching" that improve student learning. The transformation to the new **paradigm** that is common to highly successful school worldwide is necessary in which professional development is not directed at improving isolated teachers but rather becomes an embedded day to day process of improving the very practice of collaborative teaching.

The 2010 McKinsey & Company study "Closing the talent gap: Attracting and retaining top-third graduates to careers in teaching" reported on the characteristics of the top performing countries – Singapore, Finland, and South Korea – on international tests, one of which was hiring teachers from the top third of college graduates. However, the report noted:

> Singapore also provides teachers with time for collaboration and professional development. A few senior and master teachers in each school observe and coach other teachers, prepare model lessons and materials, advise on teaching methods and best practices, organize training, and support newly qualified teachers and trainees, in addition to their regular course-load. All teachers have time each week for professional collaboration and receive 100 hours of paid professional development each year.

In a June 30, 2009, article in Education Week titled "Top-Scoring Nations Share Strategies on Teachers" reporter Sean Cavanagh wrote about the education leaders of Singapore and Finland addressing a "Global Education Competitiveness Summit" sponsored by the Education Commission of the States. In writing about the Singapore presentation by Low Khah Gek (the director of curriculum, planning, and development for the Singapore Ministry of Education), Cavanagh wrote: "the Singaporean government actively works to establish career 'tracks' for teachers, according to Ms. Gek. It encourages young educators to become master teachers or subject specialists, and one day, school administrators."

It is common to cite Singapore as a successful education system worth emulating. Usually these citations point toward textbooks, curricula or teaching styles. These are operational differences. But it seems more likely that it is the structural difference of encouraging teacher professionalization that has had the strongest influence on their success. Singapore essentially established an embedded structural

career track to develop teachers to become master teachers and then school administrators who would pursue the development of professional expertise fundamental to their work.

As the NSBA report Data Conversations made clear with its bullet points: in order for schools to be successful in utilizing data the schools must have the "Active engagement of teachers in school leadership and decision-making" and the teachers must have "Substantial time for collaborative planning and options for professional development" and to do this requires "Small learning communities of educators" who are involved, as Professor Fullan stated, in a whole school reform effort with "intensive development of the profession to a high standard of practice based on evidence."

The crucial point is that this new **paradigm** imposed by the realities of the information age requires a fundamental restructuring of the way schools are organized that is based on embedding "professional development" into the daily collaborative practices of teaching to increase the capacity of teachers to implement the necessary utilization of objective evidence for making dramatic changes in the way teachers function within schools. And as Deming explained to corporate leaders: the process of acquiring and analyzing objective empirical evidence has to be embedded into the day to day operations of the organization so that change is an ongoing continuous embedded process. Embedded professional development for teachers is the sine qua non for a successful education program.

The Disgrace of American Schools

The 2010 McKinsey & Company report "Closing the talent gap: Attracting and retaining top-third graduates to careers in teaching" found that the three top performing countries in international testing – Singapore, Finland and South Korea – "recruit, develop and retain" all of their teachers from the top third of college graduates, compared to the U.S. where only "23 percent of new teachers come from the top third, and just 14 percent in high poverty schools." The report sought to discover how the U.S. could attract more "top third" college graduates to teaching.

The report found that the primary problem with getting teachers to work in high-needs schools was not money related, but rather poor working conditions. The study asked teachers who had already been in the top third of their college graduating class what would influence them to "take a job in a high needs school" and the largest response at 23 percent replied "Working environment" with "School leadership" at 10 percent the second choice which they valued even more than "double the salary."

The McKinsey report found 6 "common practices that offer lessons for the U.S." that they attributed to the success of the education systems in Singapore, Finland, and South Korea. Their fourth "common practice" in the top performing countries was that "top-performing nations foster a professional working environment for teachers" and they contrasted this with the U.S. where "opportunities for advancement or recognition are few; ongoing training and apprenticeship are often seen as mediocre; and working conditions, especially in high-poverty schools, are frequently a disgrace."

It should be sufficient to state that American public schools should not be a disgrace. The "working conditions" and "leadership" that constitute this disgrace would be unlikely to occur if the teachers themselves were involved in the management of those schools. However, changing the educational

environment in a manner that increases the professionalization of teachers and principals requires governing boards to establish the requisite supports needed to implement the change.

The February, 2011, Phi Delta Kappan magazine featured a Rick DuFour article that began:

> Teachers work in isolation from one another. They view their classrooms as their personal domains, have little access to the ideas or strategies of their colleagues, and prefer to be left alone rather than engage with their colleagues or principals. Their professional practice is shrouded in a veil of privacy and personal autonomy and is not a subject for collective discussion or analysis. Their schools offer no infrastructure to support collaboration or continuous improvement, and, in fact, the very structure of their schools serves as a powerful force for preserving the status quo. This situation will not change by merely encouraging teachers to collaborate, but will instead require embedding professional collaboration in the routine practice of the school.

But this was not a quote of DuFour, instead he noted:

> These were the conclusions of John Goodlad's study of schooling published in Phi Delta Kappan in 1983. Unfortunately, these findings have been reiterated in countless studies from that date to the present. The reason for the persistence of this professional isolation — not merely of teachers, but of educators in general — is relatively simple. The structure and culture of the organizations in which they work haven't supported, required, or even expected them to collaborate.

It will soon be 30 years since Goodlad, one of the most respected educational philosophers, pointed towards collaboration and professional development as the key to school success. Thirty years in which little has been done to foster the creation of this structure and culture in schools that governing boards must now consider. DuFour considers why collaboration has not prevailed and cites research in support of collaborative teaching including:

> The most comprehensive study of factors affecting schooling ever conducted concluded that the most powerful strategy for helping students learn at higher levels was ensuring that teachers work collaboratively in teams to establish the essential learnings all students must acquire, to gather evidence of student learning through an ongoing assessment process, and to use the evidence of student learning to discuss, evaluate, plan, and improve their instruction (Hattie 2009).

DuFour argues that collaboration cannot be a voluntary process. He lists several professions that require collaboration. But soon afterward he warns:

> Collaboration alone will not improve a school, and in a toxic school culture, providing educators with time to collaborate is likely to reinforce the negative aspects of the culture and deteriorate into complaint sessions. Team meetings that focus on the deficiencies of students, better strategies for punishing students who wear hats, or determining who will pick up the field trip

> forms will not improve student achievement; however, in many schools topics like these dominate the discussion. Providing educators with structures and time to support collaboration will not improve schools unless that time is focused on the right work.

Later he reiterates:

> The concept of a collaborative culture of a professional learning community is powerful, but like all powerful concepts, it can be applied badly. Schools can create artificial, rather than meaningful and relevant, teams. Educators can make excuses for low student achievement rather than develop strategies to improve student learning. Teams can concentrate on matters unrelated to student learning. Getting along can be a greater priority than getting results. Administrators can micro-manage the process in ways that do not build collective capacity, or they can attempt to hold teams accountable for collaborating while failing to provide the time, support, parameters, resources, and clarity that are crucial to the success of teams.

DuFour concludes that high achieving schools need to have an embedded structure that ensures teachers and administrators work collaboratively, and this may involve extensive training. The process of embedded professional development and collaborative management is something that must be overseen by school governing boards to ensure that this new **paradigm** is not misinterpreted or misapplied, and that implies active involvement in overseeing the structural changes in the way schools function. DuFour notes:

> When schools are organized to support the collaborative culture of a professional learning community, classroom teachers continue to have tremendous latitude. Throughout most of their workday and work week they labor in their individual classrooms as they attempt to meet the needs of each student. But the school will also embed processes into the routine practice of its professionals to ensure that they co-labor in a coordinated and systematic effort to support the students they serve.

Implementing Professional Learning Communities (PLCs)

In the following month of March, 2011, Kappan magazine ran an essay by George Washington Graduate School of Education and Human Development assistant professor Rebecca A. Thessin and Joshua P. Starr, the public schools superintendent in Stamford, Connecticut. The essay was titled “Supporting the GROWTH of Effective Professional Learning Communities Districtwide.” The article’s subtitle was “Teachers do not magically know how to work with colleagues; districts must support and lead that work if PLCs are to live up to their potential.”

The essay described the implementation of a PLC initiative in the Stamford schools:

> In preparation for PLC work, the district’s assistant superintendents worked with school leaders to ensure that, beginning in September 2007, teachers at every school would have time to meet weekly with other teachers to discuss their practice. …. But teachers sat together during PLC time confused and, in some cases, even frustrated by this new direction. Simply putting well-

> meaning individuals together and expecting them to collaborate was not enough. They needed professional development and guidance to achieve this goal.

Stamford implemented a PLC steering committee and voluntary 6 hour training sessions for PLC facilitators. Those who completed that training were offered two-day workshops on how to lead professional development sessions. The authors related "We now realize that districts and schools planning to implement PLCs should provide administrators and teachers with sufficient training in Year I to ensure that both administrative and teacher leaders are prepared to lead PLC work at their school sites."

Governing boards have traditionally focused attention on traditional school operations and staffing. However, it is precisely traditional school operations and staffing that have now been identified as interfering with student achievement. It is the duty of elected governing boards to re-determine how their educational organization should be structured in order to best accomplish their fundamental goals for student learning.

At the same time, the fifth "essential support" that the CCSR established as a crucial ingredient in the cake of successful school reform was parent-community ties including "strengthening the network among community organizations." To attain high student achievement governing boards must work carefully to explain to community organizations the importance of supporting a fundamental paradigmatic change in how schools are operated. Community leaders and organizations need to be brought into the process at a very early stage so that the transitions receive a full understanding when change causes dissension.

Dissension during the process of change is almost inevitable, particularly when, as Professor Elmore explained in his 2002 paper "Bridging the Gap Between Standards and Achievement":

> Thus, one aspect in improving the quality of teaching is often *un*learning deeply seated beliefs and implicit practices that work against the development of new, more effective practices.

Community groups need to know that the business research group that produced the McKinsey study found over and over that top performing countries "invest systematically in developing the skills of those they select to teach" and "top-performing nations foster a professional working environment for teachers" plus all three top performing countries focus on giving teachers greater influence over their professional lives.

From Singapore where "senior and master teachers in each school observe and coach other teachers" to Finland where "Teachers have wide decision-making authority in school policy and management, textbooks, course content, student assessment policies, course offerings, and budget allocations within the school" to South Korea where teachers are to be "evaluated by peer teachers, administrators, students and parents at least once a year, and will participate in professional in-service education based on the feedback" the new paradigm of education is to create a learning environment as a supportive rather than punitive process.

Many community groups may have already implemented the Deming-based transformation of structure and management in their own organizations. They can become a resource for implementing the process in public education. Many major corporations have Deming-based quality improvement management training programs that may offer to include teacher-leaders and principals in their classes. University management colleges may also provide resources in Deming concepts of organizational management.

The new **paradigm** of organizing schools for continuous improvement requires a fundamental recognition that improving student learning means undoing the way many things have always been done. Improving student learning may mean an inversion of what has traditionally been done in schools, just as Deming required corporations to invert their management structures to empower workers to utilize objective evidence supported by supervisors who saw their role as facilitators rather than maintaining the status quo.

More importantly, the call for school reform should be understood as a call for re-evaluating the organizational *structure* of public education rather than evaluating individual employees or operations. Unfortunately, for many people this constitutes a "**paradigm shift**" that defies their understanding. Myron T. Tribus, the former director of the Center for Advanced Engineering Study at MIT and a leading supporter and interpreter of W. Edwards Deming's philosophy, explained in 2001:

> If you try to introduce people to a paradigm shift, they will hear what you have to say and then interpret your words in terms of their old paradigm. What does not fit, they will not hear. Therefore, a change in paradigm cannot be brought about by talking. People have to experience the change, or at a minimum see other people experiencing it, before they will begin to understand what you are saying.

The lack of teacher professionalism and a virtually nonexistent intellectual foundation for teaching has long been recognized in public education. Many critics consider them to define public education. In some respects the continuing existence of these longstanding problems is viewed as an abdication of responsibility by school district governing boards that these problems have persisted seemingly unaddressed for decades. As a consequence, most of the various ill-conceived political ad hoc "reform" efforts in education derive directly from exasperated attempts to step in and counter or resolve these problems. Some of these attempts include doing away with elected governing boards altogether.

The need for a coherent implementation of educational reform programs that create a professionalized working environment for teachers within a highly collaborative leadership **paradigm** has only become increasingly more pressing as public efforts to displace elected governing boards in frustration mount. Without the development of professional expertise within individual schools capable of recognizing, developing and implementing coherent changes through the embedded organized professional development of actual teaching staff, this frustration likely will only grow.

We are talking about a very longstanding problem. Dr. Grady Gammage, president of Arizona State College at Tempe, Arizona, was quoted in the April 13, 1946, Arizona Republic:

> We can recruit the most desirable teacher material only when we make the profession attractive. That involves the question of teacher salaries, but not that question alone. We must give the profession prestige.

Carpe Diem.