


Redesigning America's Schools:
A Systems Approach to Improvement



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educators in individual schools appear to have the technical expertise required to carry out the necessary reforms when the reforms focus primarily on new approaches to teaching and learning and are built on pragmatic experience. Finally, Murphy and Odden conclude that **top-down change works for simpler reforms**, especially those that implement well-proven programs followed by teacher involvement and sustained staff development.

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

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

The fourth lesson of change proposed by Fullan is that **vision and strategic planning come later in the school improvement process because merging personal and shared visions takes time**. The fifth lesson is that **individualism and collectivism must have equal power**. There must be a balance or a creative tension between an individual's need for autonomy and the need for collaboration. Too much autonomy leads to

isolation and chaos; too much collaboration leads to "groupthink" (a phenomenon first described by Janis, 1982) and **overcontrol**.

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

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

Systemic Thinking Precedes Systemic Improvement

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

Deciding on System Boundaries

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

Chapter I

The Past Before Us Is Not the Future: A Systems Approach to School Improvement

In *A Woman of the Future*, Australian novelist David Freland described a character whose “past was before him like a beacon, he would keep going in that direction and call it the future.” To be in control, to master change . . . you must fall away from a past that prevents you from seeing the potential ahead.”

—Arnold Brown and Edith Weiner

The past hides in the confusion of the present, waiting to make its entrance to the future. Some people hold the past before them like a beacon and call it the future, like the character in David Freland’s book. Its beam is thought to shine the light of understanding on whatever it unveils. Outside the circle of illuminated ideas is a capacious darkness with unknown opportunities and hidden dangers.

There is much to be learned about school improvement in this immense darkness. Past efforts to understand and apply school improvement methods illuminate what we currently know (see chapter 3). To expand their understanding of the world of school improvement, researchers and practitioners venture into the darkness by stepping outside the comforting circle of ideas illuminated by the light of the past. They realize that “change is a journey of unknown destination, where problems are our friends, where seeking assistance is a sign of strength, where simultaneous top-down bottom-up initiatives merge, where collegiality and individualism co-exist in productive tension” (Fullan, 1994, pp. vii-viii).

In this chapter, we take you into the darkness beyond the tranquilizing comfort of what is currently known about school improvement to explore the land of systemic school improvement. We guide you along a new path called Knowledge Work Supervision (KWS) (Duffy, 1996, 1997a, 1997b, 2000 in press). The journey starts here with an overview of the terrain (more details about using KWS are found in Part II).

KNOWLEDGE WORK SUPERVISION

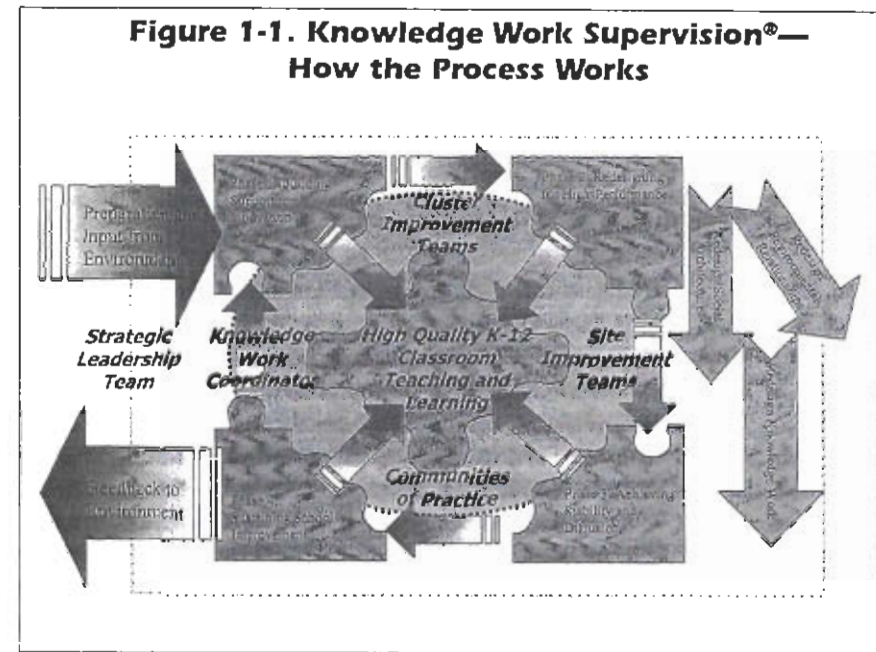
Organizational transformation requires a fundamental shift in the mental models used to design and manage organizations. This transformation occasionally occurs in response to or in anticipation of changes in an organization's external environment. This kind of transformation also requires simultaneous changes in an organization's core work process and its internal social "architecture" (which includes organizational culture, organizational design, critical job skills, and communication structures and processes). It requires qualitatively different ways of perceiving, thinking, and behaving within the organization. It demands the active, unequivocal leadership of top management and the significant involvement of other members of the organization. It is characterized by "considerable innovation and learning and continues almost indefinitely as organization members discover new ways of improving the organization and adapting it to changing conditions" (Cummings & Worley, 1997, p. 475).

Schlechty (1990) suggested that revolutionary transformation is necessary for America's schools when he said, "If America's schools are to meet the needs of the 21st century, then—like America's corporate structure—they must be reinvented. It is not enough to try to fix schools; they must be reconstituted in fundamental and radical ways . . . restructured" (p. xvi). KWS is designed to transform entire school systems into high-performing organizations of learners.

Darling-Hammond (1997) observed that

... the most successful schools [in her study] were characterized not by the particular innovation they had adopted but by their willingness to search and struggle in pursuit of valid objectives, new strategies, and new forms of assessment. It was the process of collective struggle that produced the vitality, the shared vision, and the conviction that allowed these schools to redesign education in fundamentally different ways. (p. 53)

KWS is a new strategic, comprehensive, systemic, and systematic approach that can transform school systems in fundamental ways. It also has the potential to create and support student, teacher, and system learning. KWS is shown in Figure 1-1.



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We summarize below the four phases of KWS using Figure 1-1 as a guide. Part II describes the specific KWS steps and activities.

The Four Phases of KWS

KWS was designed by linking the theory of large-scale organizational improvement to established methods for improving whole systems and innovative methods for improving knowledge work. The term *established methods* is not used frivolously. Methods integrated into KWS have more than 35 years of research and successful experience supporting their effectiveness. These methods are Fred and Merrelyn Emery's Search Conference and Participative Design Workshop (Emery & Purser, 1996). A third method is Harrison Owen's (1991, 1993) Open Space Technology. This method has been used effectively for about 15 years. A fourth set of tools is called the Socio-Technical Systems (STS) design methodology. In 1994, a compiled research bibliography on STS design contained 3,082 English-language research studies focusing on its effectiveness (van Eijnatten, Eggermont, de Goffau, & Mankoe, 1994).

KWS focuses on producing simultaneous improvements in three sets of school system variables: knowledge work processes, social architec-

ture, and environmental relationships. Simultaneous improvements in these three areas are made using a systematic four-phase process designed to transform entire school districts into high-performing communities of learners.

Prelaunch Preparation and Input from the Environment

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

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

Phase 1: Building Support for Innovation

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

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

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

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

During Phase 1, the school system's stakeholders engage in a special large-group process called Open Space Technology (Owen 1991, 1993) to identify their expectations for the school system. A systemwide

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

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

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

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

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

Phase 2: Redesigning for High Performance

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

The redesign phase focuses on creating simultaneous improvements in the first K-12 cluster's core knowledge work processes (teaching and learning), social architecture, (the cluster's culture, communication structures, etc.) and environmental relationships (the cluster's relationship with its neighborhood, the broader community, and the other clusters in the district). The three arrows on the right side of Figure 1-1 represent these simultaneous improvements.

Phase 3: Achieving Stability and Diffusion

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

Phase 4: Sustaining School Improvement

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

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

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

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

The Five Key Players of KWS

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

Strategic Leadership Team

The SLT provides strategic leadership for school district improvement. It is composed of the superintendent of schools, a few of his or her trusted assistants, and respected teachers and building-level administrators who are appointed to the team by their colleagues (not by the superintendent) from each level of schooling (elementary, middle, and secondary). Some school systems may decide to include a school board

member, parents, community members, a state department of education representative, or students.

Knowledge Work Coordinator

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

Cluster Improvement Teams

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

Site Improvement Teams

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

Communities of Practice

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

The Role of the Central Office

A school district's central administration office can be a stumbling block to creating and sustaining systemic school improvement. The cen-

tral office should be redesigned as a Central Service Center to support effective systemic school improvement. In this capacity, the staff of the Central Service Center views teachers and building-level administrators as their "internal customers."

Underpinnings of the KWS Approach

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

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

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

There are 11 basic propositions that underpin KWS.

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

Proposition 2. Effective school improvement requires the use of the principles of systemic change. When principles of large-scale improvement are consistently applied, it is much more likely that improvement

efforts will produce systemwide excellence rather than pockets of school-based or department-specific excellence.

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

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

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

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

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

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

Proposition 9. Even though systemic stability is reestablished after making KWS improvements, none of the improvements should be

viewed as permanent. The school system must seize opportunities in and deal with threats from its environment. This requires school systems to maintain their capacity for future change.

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

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

The Knowledge Base for KWS

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

Core Concepts

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

Team-Based Organizational Design. Setting priorities and providing resources is not enough to transform entire school systems into high-performing communities of learners. Senior- and school-level managers must actively support and encourage the transformation of their school systems from traditional hierarchical organizational designs into team-based designs. Substantial research also exists on the effectiveness of self-managed teams (Goodman, Devadas, & Hughson, 1988). Pava (1983a) says this kind of transformation has four elements:

- It must promote new concepts that enable people to appreciate the fact that work and its organization can be designed by choice.
- The approach must guide data collection and analysis about how work is currently organized.
- The approach should generate a tentative outline of new organizational alternatives.
- The approach should specify basic guidelines for the process of getting people to change their unit's organization and technology.

As described above, KWS has five key players, four of which are teams: the SLT, the K-12 Cluster Improvement Teams, the SITs, and Communities of Practice. The linchpin that orchestrates all these teams is the Knowledge Work Coordinator—a new role proposed for school systems to serve as a knowledge manager. As networked teams, these key players not only work within their chartered team boundaries, but they also communicate across team boundaries.

From Bureaucracy to Participation and Collaboration in School Systems. Because KWS requires a high level of participation and collaboration, the traditional bureaucratic organizational design of school systems ought to be replaced with a participative organizational design. It is impossible to have a high degree of participation and ownership within bureaucratic operating principles.

High participation is one of the critical factors for successful school improvement. MacMullen (1996) reviewed and analyzed factors affecting school improvements made in schools that were part of the Coalition of Essential Schools and concluded that a significant requirement for successful reform is the inclusion of the *entire* faculty (emphasis ours) in developing the strategic direction of the school system. Similarly, Peterson, McCarthey, and Elmore (1996) learned through their research that successful school restructuring was related to teachers working together as a whole staff or in teams. Fullan (1991) recommends the "re-design [of] the workplace so that innovation and improvement are built into the daily activities of teachers" (p. 353)—a recommendation that implies the need for a high level of teacher participation in the improvement process.

High participation also contributes to a sense of self-efficacy; that is, the sense that one has some degree of influence or control over something. Rosenholtz (1989) found that teachers with a strong sense of efficacy were more likely to adopt new classroom behaviors and were more likely to stay in the profession. McLaughlin and Talbert (1993) confirms Rosenholtz's findings. They suggest that giving teachers opportunities for learning together resulted in a body of teaching wisdom. Darling-Hammond (1996) observe that this level of teacher collaboration and

Focus Questions for Duffy, Rogerson & Blick, Chapter 1

Chapter 1

What is the relationship between Knowledge Work Supervision (KWS) and mental models? (p. 4)

What are the three areas in which changes are needed simultaneously? (pp. 5-6)

What kinds of support for change are important? (pp. 6-7)

What is transformational leadership, and how does it compare to Schlechty's and Senge's conceptions of leadership? (p. 8)

What are the five key players of KWS, and what function does each serve? Which one would you eliminate if you had to cut one? (pp. 8-9)

Why is a strategic direction for the whole district important?

What is a participative organizational design, and why is it needed before the KWS process begins?