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## Introduction

### A FIRST PASS AT PURPOSES

Two anecdotes (only slightly fictionalized) illustrate some of the most important purposes the monitoring system is intended to serve.

The questions raised in these two anecdotes are being asked in many parts of the country. Indeed, comparable questions are posed daily within most educational jurisdictions throughout North America. Moreover, lack of good information prevents the development of productive responses to such questions. The monitoring system was developed in order to provide such information.

#### **Anecdote 1 (An urgent need for an improvement focus)**

*The principal of Littlewood Heights Middle School received her students' scores on the state's math and language achievement tests the week before the results of all schools in her district and state were reported in the local paper. Students at Littlewood scored in the lowest 10 percent of middle schools in the state. Among the other six middle schools in the district, Littlewood results were second from the bottom. Littlewood staff are depressed by the results and the reactions to the results by some parents. The principal is experiencing not-so-subtle pressure from the superintendent to provide him with a plan for improving the results. But neither the staff nor the principal has any clear idea of where to begin.*

#### **Anecdote 2 (A case of shriveling commitment)**

*For the past 5 years, administrators and teachers in School District #101 have been "implementing the state's policies and directions." Primary teachers in the district were strong advocates of the primary curriculum framework when it first appeared. They even liked the idea of dual entry before the state withdrew it as a component of the framework! Most intermediate staffs in elementary schools embraced the intermediate framework just as enthusiastically, and*

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*several secondary staffs have been experimenting with initiatives likely to be consistent with the senior division framework. In the past year, however, enthusiasm has begun to wane noticeably. More complaints are being voiced by principals, for example, about district budgeting processes that get in the way of their change efforts and district testing policies that send confusing messages to teachers about curriculum priorities. Some parents have also expressed confusion about the gap they see between the role they expect to play in their children's education and the distance at which they are held by the staff of their local school. The superintendent is beginning to ask, "Why is this effort starting to go off the rails? Where should we direct our energies to restore the earlier levels of commitment to the state's initiatives?"*

Strategic planning, increased accountability, and school restructuring have two things in common. First, they are well-intentioned initiatives, often carried out in ways that actually exacerbate the problems they are intended to solve (examples of what Sieber, 1981, many years ago referred to as "fatal remedies"). Second, to accomplish their intentions almost always requires more and different kinds of information than schools and districts possess: in many instances, this lack of information accounts for the fatal nature of the remedies, which of course wastes enormous amounts of time, energy, goodwill, public support, and money.

Districts and schools often engage in strategic or school improvement planning as a means of sharpening their priorities in times of fiscal constraint, and to help adapt proactively to internal and external pressures for change such as those now created by the No Child Left Behind legislation in the United States. Strategic planning also is viewed as a way to build commitment among organizational members to a shared vision for the future. In many districts and schools, however, the real consequences of strategic planning are altogether different: unmanageably large numbers of "priorities" are identified; so much turbulence is created in the organization's environment that well-targeted improvements become impossible to make; and initial increases in commitment to the organization's directions are followed by pessimism and disillusionment as the school or district finds it impossible to follow through on much of its plan. Is it any wonder that the title of Henry Mintzberg's (1993) book is *The Rise and Fall of Strategic Planning*?

Increased demands on schools to become more accountable typically spring from legitimate concerns that students may not be learning what they should or as much as they ought to learn, and/or that school personnel are not efficient in their practices. But the consequences of tightening the accountability "screws" often are a narrowing and trivializing of the school curriculum and the creation of work cultures that reduce rather than increase professional commitments and circumscribe the full use of existing teacher and administrator capacities.

As a response to the failed school reform efforts of the past, restructuring and large-scale reform initiatives aim at fostering substantially more than just "first-order" changes—changes in the services provided directly to students, largely through the school's curriculum and instruction. Large-scale reforms aim also at "second-order" changes—changes in the structures, policies,

norms, and the like, that either support or detract from the services provided directly to students. Unfortunately, many of the more popular changes now being implemented in schools seem to have little impact on changes in curriculum and instruction. The means for accomplishing many of the student outcomes aspired to by their advocates are unusually complex, often uncertain, and sometimes unknown. Increasing competition among schools for students by creating “markets” is a case in point. The professional learning required for successful large-scale reform depends on a commitment to experimentation and innovation at the local level.

What types of information would help avoid these unwanted consequences? In many cases, this would include systematically collected information about how well the current status of those elements of the school and district with the greatest impact on students compares with knowledge of best practices. Such information reduces competition among planning participants (engendered by popular procedures for strategic planning) for attention to their “favorite” problem—a competition normally adjudicated by adding everybody’s favorite to the list. The negative consequences of increased accountability demands are ameliorated by information about a broader set of indicators of the organization’s well-being than is typical of existing indicator systems or the student achievement data collected by many schools and districts. Finally, the local learning required for successful reform on a large scale is aided by feedback about the consequences of innovative practices and information about remaining obstacles to change.

*Making Schools Smarter* is a monitoring system designed to help schools and districts acquire the information they need to better realize their intentions for improvement and accountability. In the remainder of this book, you will find a description of an ideal but achievable school and district in the intermediate future (5 to 10 years hence); also included are indicators of specific features of that school and district, and ways of measuring comparable features of current schools and districts. Guidelines are provided for using data generated by such measures to help move current schools and districts closer to the ideal. Because this ideal, as described in the next two chapters, is a “professional learning community,” movement toward the ideal means that schools and districts will be getting smarter—literally; they will be enhancing their collective capacities to serve students better.

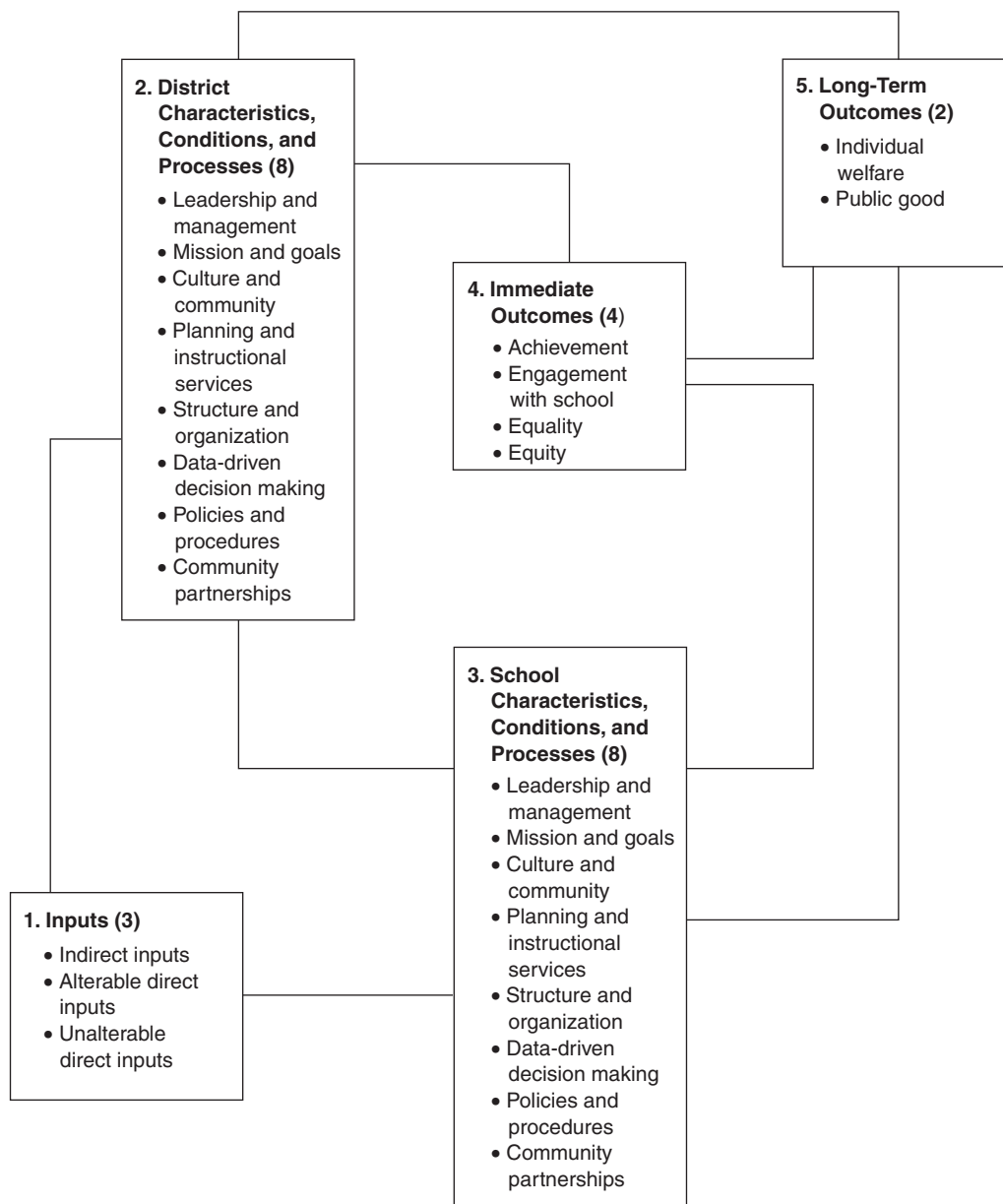
This chapter describes more fully the uses for the monitoring system, summarizes its features, and offers reasons for the choices made in its design. The chapter ends with an overview of the remainder of the book.

## THE BIG PICTURE

The monitoring system is selectively comprehensive: selective in its focus only on elements of district and school organizations for which there is convincing evidence of “value addedness” or impact on important outcomes; comprehensive in its consideration not only of the inputs or resources schools and districts are given to work with (for example, money) and the outcomes of that work (for

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**Figure 1.1** Specific Characteristics Involved in the Model School and District



NOTE: This figure identifies the specific qualities or characteristics found within five dimensions of the model school and district. Plausible relationships among the five dimensions are also shown. A more detailed justification and description of these qualities or characteristics is left to subsequent chapters, at which point related indicators and measures also are identified.

example, student achievement), but also the processes most likely to foster those outcomes (for example, teaching, leadership).

Figure 1.1 identifies the five dimensions or categories within which are located the more detailed characteristics of the model school and district on which the monitoring system is based. The categories are defined as follows:

1. *Inputs*. Resources available to the school and district, selected characteristics of people served by and employed in the school and district, and

the nature of the wider social and cultural context of the community within which the school and district are located. Some inputs are relatively fixed or hard to alter; others may be altered through intentional intervention by those in the district and school.

2. *District characteristics, conditions, and processes.* Features of the school district believed to make either a direct or indirect contribution to accomplishing desired (immediate and/or long-term) outcomes.
3. *School characteristics, conditions, and processes.* Features of the school organization believed to make either a direct or indirect contribution to accomplishing desired (immediate and/or long-term) outcomes.
4. *Immediate outcomes.* The intended contributions by the district and school to the socioemotional and intellectual growth of individual students as well as to the student population as a whole.
5. *Long-term outcomes.* The intended educational and vocational opportunities and dispositions created for and in students as a consequence of accomplishing immediate outcomes, as well as contributions by the school and district to the social and economic well-being of the broader community within which they are situated.

## WE HAD OUR REASONS

It is important to note that the monitoring system does not specify what the intermediate or long-term outcomes should be. This is a matter of local policy. The monitoring system can be used with any reasonable choice of educational outcomes.

In this section, we review five issues typically considered central in the development of a defensible monitoring system. Responses provided to these issues are intended as an explanation, if not justification, for the choices made in designing the model school and district portrayed in Figure 1.1 as well as the monitoring system developed from it. The issues include:

1. What is a monitoring system, and what purposes should it serve?
2. Why should a monitoring system include district and school processes?
3. How are elements of the monitoring system related?
4. How detailed should a monitoring system be?
5. How can a monitoring system be future oriented?

### What Is a Monitoring System and What Purposes Should It Serve?

*The ultimate long term test of this system is not whether we are better informed but whether we act more prudently.*

—(Bryk & Hermanson, 1993, p. 476)

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A monitoring system is a concise description of what should be and a process to determine what is. What this means can be explained more fully by comparing a monitoring system with an education indicator system. In Oakes's terms, an indicator system is "a statistic about the educational system that reveals something about its performance or health" (1986, p. 1). A set or system of indicators is an accumulation of such statistics. We view a monitoring system as a framework within which to select or define, interpret, and use a wide array of indicators. *The central distinction between a system of indicators and a monitoring system is the requirement, in the case of a monitoring system, that regularly collected information be translated into courses of action. These courses of action will usually be informed by the strategic directions established by the school and district.* To serve this purpose, then, a monitoring system must be based on a coherent understanding of what is being monitored. In contrast, an indicator system requires no such understanding.

Although all monitoring systems collect information, evaluate it, and initiate action as a result, the nature of the action will differ considerably depending upon one's assumptions about the nature of the organization being monitored. As discussed further in Chapter 2, there are several alternatives. If one assumes the organization to be a bureaucracy, the information most certainly will be used (often by those in central positions) to diagnose deviations from policy, to determine organizational strengths and weaknesses in accomplishing specific goals, and then to launch remedial action. We refer to this as *centralized, instrumental use* of the monitoring information. A monitoring system is, in a bureaucracy, a management information system.

Some people, however, prefer to think of schools and districts as communities. From this view, the value of the information provided by the monitoring system is *individual enlightenment*; such information aims "to change the basic ideas that ground day-to-day life in schools" (Bryk & Hermanson, 1993, p. 454). There may be no immediate action resulting from this change in basic ideas. But one expects such changes in thinking eventually to influence at least the actions of some individual members of the organization as they come to understand their work differently.

As we explain in considerably more detail in Chapter 3, however, neither bureaucracies nor communities provide fully satisfactory perspectives on which to premise assumptions about a school or district. More satisfactory, we believe, is a view of the school and district as a *professional learning community* (PLC)—an organization with the collective dispositions and structural characteristics enabling it to learn, through its own and others' experiences, how to continuously "get better," to behave more "intelligently." When conceived of in such terms, a monitoring system ought to serve as a powerful stimulus for raising the organization's collective capacities. Most certainly this requires enlightenment—changes in basic ideas and understandings. Not just enlightenment of individuals, however, but of teams engaged in collective problem solving, as well. And most certainly such enlightenment will lead to instrumental action by both individuals and teams. Such action may include remediating organizational weaknesses in relation to existing goals, what Argyris and Schon (1978) refer to as "single-loop learning." But it will sometimes also include redefining

such goals and rethinking the norms, values, and beliefs on which are based organizational policies and practices (double-loop learning).

Monitoring systems, then, serve PLCs by fostering both single- *and* double-loop learning. Such learning needs to occur at the small-group or team level, at the school level, and at the central district level. In principle, the monitoring system and the information it produces have relevance for every individual or group with a stake in the quality of the school's or district's work. For a PLC, a monitoring system is a vehicle through which mostly small, incremental additions (but occasionally large, radical changes) can be made to the collective capacities of its members. A monitoring system allows this to happen to the extent that the potential users of the information it provides have developed habits of collective reflection and consequent action to which information from the monitoring system can be introduced.

### **Why Should a Monitoring System Include District and School Processes?**

There are at least five reasons why district and school processes ought to feature prominently in a district monitoring system, if not an indicator system, as well.

1. *Processes are ends in their own right.* There can be no doubt that educators, parents, and the public at large worry about how successfully schools assist students in accomplishing what the monitoring system refers to as “outcomes.” By no stretch of the imagination, however, is that all they worry about; it is not the case that any means are justified if such ends are accomplished. As a minimum, these “means” of education, most of us insist, must be humane. Furthermore, we hope they are pleasant from the students' point of view, even exciting, engaging, and compelling. After all, school is not just preparation for life after school; it is life. For those who graduate from secondary school, the experience figures prominently throughout 15–20 percent of the total years of their lives. That is a long time in which to be bored, frustrated, and unhappy, even if one does leave the experience literate and numerate.

2. *Equity goals demand process measures.* As evidence has accumulated in response to education's equity agenda, it has become shockingly clear that the quality and extent of school processes are often distributed among students quite unevenly. For example, students who find themselves in the nonacademic streams or tracks of some secondary schools often experience less talented teachers, poorer quality instruction, “watered-down” curricula, and more restrictive learning environments. *Equity* means, among other things, equal access to the same quality and quantity of educational resources (or processes). Aggregated outcome measures, as No Child Left Behind forcefully reminds us, cannot detect inequity. Input-output analyses usually point to the students' socioeconomic status as the “explanation” for a large proportion of variation in outcomes among students. One needs information about school processes, however, to pinpoint what it is that schools actually do, or don't do, to alter the predictable effects of socioeconomic status (SES) inputs. If all that schools do is exacerbate or reproduce

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the inequities kids bring with them to their school experience, we can hardly claim to be addressing problems of inequity.

3. *Process measures offer clues to school improvement.* Oakes (1989) has noted that “even though we do not fully understand how schools produce the results we want, context information may provide clues . . . about why we get the outcomes we do” (p. 182).

This is an entirely instrumental reason for including process measures in a school and district monitoring system. Just consider what you don’t know when all that are measured are inputs and outputs and when the outputs seem unsatisfactory. You don’t know why—not a clue. So process measures offer clues. They pinpoint features of the district’s or school’s functioning that might help explain disappointing outcomes, allowing one to orient efforts to change around those features.

It is difficult to overemphasize the importance of process measures for this purpose. Even though their value seems self-evident, policy groups everywhere persist in measuring outcomes in as technically rigorous a manner as possible but basing recommendations for change on almost no systematic data whatever. The result? Wave after wave of solutions to the wrong problems. Or the bizarre strategy of increasing the testing of outcomes even more based on the expectations that this will somehow, magically, improve them. This is something to do when you don’t know what to do, a declaration of intellectual bankruptcy.

4. *Process measures balance the effects of technical shortcomings.* Only a small range of the outcomes we aspire to for students can actually be measured, at least on a very large scale, in a technically adequate and cost-feasible manner. Simple skills and factual knowledge—easy; complex problem-solving skills—harder; capacities for aesthetic appreciation, development of self-direction in learning, mathematical creativity, persistence, realistic self-concept—nope, no time soon.

We are painfully aware, however, of what happens when the only outcomes measured are those that can be measured well. The ubiquitous curriculum steering effect sets in. If the results of the measurement actually count for something, especially if they are seen to be “high stakes,” the curriculum that is taught quickly begins to approximate the curriculum that is tested. In the face of such a consequence, measures of school and district processes symbolically announce that other outcomes matter, that the outcomes not directly measured but expected to develop through measured processes also deserve attention.

Such measurement does have symbolic value. But that is not all. It is indirect evidence of what is being learned, as well, since what is taught is usually a powerful predictor of what is learned.

5. *Process measures monitor reform initiatives.* Many reform efforts, certainly those embodied in many state and provincial restructuring initiatives, advocate changing the nature of the curriculum, types of classroom instruction, the organization of students, assessment, reporting of student progress, and the like. These are all processes carried out in the school and classroom. Other



initiatives such as decentralized decision making and altered governance structures imply changed district processes. Including process measures in the monitoring system provides direct information about the progress being made in implementing reform.

Although this remains a controversial matter, process measures are actually a far more defensible basis for demonstrating a school or district's accountability than are outcome measures. It is these processes over which educators have direct control. It is reasonable, therefore, to expect that teachers and administrators will implement those processes judged to be most effective by themselves, policymakers, the profession, and the research community. Also reasonable is the expectation that such processes will be implemented with discretion and that educators will refine them and develop better processes in a continuous effort to improve their practices. Having met all of these expectations, however, a school or district may still "produce" outcomes that someone or many people consider unsatisfactory. Educators have little or no control over this, because such outcomes are also a product of many influences other than the students' school experiences: the aptitudes they bring to the school, the family's educational culture, and the norms and attitudes pervasive in the wider community, for example. Also, educators rarely have any control over the standard against which achieved outcomes are compared. Such standards often vary widely among those who respond to reports of the results of student achievement testing.

These limitations on the accountability of educators parallel limitations on almost all professions, although in many other professions these limitations seem to be better appreciated. Medical practitioners, for example, are expected to skillfully use the best available healing and surgical techniques with discretion; their patients still die, sooner or later, without the doctor being blamed. A greater emphasis on process measures as part of a monitoring system may assist in shifting the basis for educational accountability onto more defensible grounds. This is not likely to happen if the only evidence reported to the public is about student achievement, although that is obviously one important type of evidence to report.

### **How Are Elements of the Monitoring System Related?**

*There are only four possible things that can happen among events in an organization. The events can be either similar or different, and they can occur either at the same or at different times.*

—(Weick & Bougon, 1986, p. 103)

It is tempting to read Figure 1.1 as though relationships among the five dimensions of the model school district joined by lines were causal in nature, with the direction of causality moving from left to right. Indeed, this was how we ourselves thought of the relationships in the early stages of developing the monitoring system. Furthermore, there may remain some reasons for assuming that is the nature of the relationships even yet. For example, the use of

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statistical “causal modeling techniques” to analyze quantitative data collected about the five aggregate dimensions of the monitoring system likely would require some version of this assumption.

However, as the specific characteristics of each dimension are considered, the assumption of a simple, one-way flow of cause and effects quickly becomes untenable. For example, consider the relationship between *inputs* and *district characteristics*. Financial resources (an input) have an obvious effect on policies and procedures. You cannot set a pupil-teacher ratio of 15 to 1 in district classrooms unless you have an exceptional district budget. On the other hand, the district can introduce procedures for altering its financial resources—holding a district referendum, for example. Causal relationships become even harder to imagine as one considers elements within dimensions. For example, do the mission and goals of the school determine the school’s culture, or is it more likely the other way around? Or is it reciprocal?

These puzzles have led Bryk and Hermanson (1993) to caution: “Beware the causal (sic) modeler” (p. 471). They explain that

what we know in a rigorous scientific sense is limited by extant research technology. The linear additive, unidirectional models that are the stock in trade of the quantitative social scientist are far too simplistic a representation for the phenomena under study. No analyst, if really pressed, is likely to maintain that social reality is a simple ensemble of non-interacting additive components. (p. 461)

Having raised the caution, however, Bryk and Hermanson still recommend that monitoring systems have a strong conceptual organization, one that faithfully reflects those causal relationships that are apparent in available research and “the best clinical expertise” (p. 468). Oakes (1989) argues for the consideration of such relationships as “enabling”—a kind of soft causality. This is, we think, a sensible view of the relationships evident among the five major dimensions of the model school district. But we offer no advice on the relationship among the specific characteristics within each dimension of the monitoring system.

### **How Detailed Should a Monitoring System Be?**

*Your car could have gauges describing every system and function within it, but it does not. . . . You assume that if a wheel bearing wears out, you will hear it.*

—(Selden, 1990, p. 386)

During its development, the single most frequently raised concern about the monitoring system was its detail or comprehensiveness. “It has to be much simpler to be understood,” we were advised. “Too much information will be overwhelming,” people argued, “and make it impossible to determine priorities for action.” “*What is needed*,” our advisors said, “*is good information about a small, manageable number of key indicators.*”

This is good advice about an issue that has plagued most other efforts to build educational monitoring and indicator systems. In their extensive review of such efforts in 1993, Bryk and Hermanson noted that a complete model of a school system lies far beyond our current knowledge (still a reasonable claim some years later): “Such knowledge is partial and does not approach an integrated theory of school organization, processes and effects” (p. 462). They also concur, however, with the position we took in response to our advisors. Our position was to develop as detailed a model of schools and districts as evidence permitted and as we thought the purposes for the monitoring system demanded. This meant a substantially more detailed monitoring system than some of our advisors had in mind. But pinpointing the district and school processes plausibly accounting for achieved outcomes, a key purpose for the monitoring system, seemed to demand nothing less. Of course, the system may indeed be overly complex and unwieldy for other purposes. Using selected elements of the system piecemeal may be quite suitable for these other purposes.

### **How Can a Monitoring System Be Future Oriented?**

*To choose a direction [members of an organization] must first have developed a mental image of a possible and desirable future state of the organization. This vision . . . articulates a view of a realistic, credible, attractive future for the organization, a condition that is better in some important ways than what now exists.*

—(Bennis & Nanus, 1985, p. 89)

Let's start by asking why the monitoring system ought to be future oriented, in case that is not yet clear. The short answer is that its purposes require a future orientation. As the main justification offered for including district and school processes, we argued that central to the purpose for monitoring was the pinpointing of reasons for the accomplishment and non-accomplishment of important outcomes. It is possible to construe this purpose as serving to maintain the school or district in a stable state or condition of equilibrium; this would be somewhat analogous to the diagnostic-remedial model of medical practice aimed at maintaining bodily health. But we pointed out also that the actions in response to such diagnostic clues about the organization's health were to be generated within the framework of the organization's strategic decisions.

This point deserves more attention than it has received so far because it was central to the motivation for developing the monitoring system. After investing considerable effort in strategic or improvement planning and the early stages of pursuing the directions established through such planning, many schools and districts began to look for a systematic means of assessing their progress and making midcourse adjustments. No strategic or improvement plan is needed for standing still (a plan perhaps, but not a “strategic” plan). So strategic or improvement planning efforts signal a commitment to change. In fact, the content of such plans often indicates a commitment to some quite substantial

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organizational change. The monitoring system helps meet this commitment by being future oriented.

That's our answer to the *why* question. On to the *how* question: How can a monitoring system be future oriented? Our answer lies in the nature of the information on which the district and school processes parts of the system are built and on what uses are made of that information. Four types of information were considered. The first was the literature reviewed in Chapter 3 about the nature of a professional learning community, in particular the conditions within an organization that foster collective learning commitments. A second type was research aimed at describing effective classrooms, schools, and districts. A selected set of original studies and broad reviews of this research, which we believed to be of good quality, were included. The pool of research encompassed by this category is vast but uneven; an extensive corpus of research has been generated about classroom and teaching effectiveness, less (but still substantial amounts) on school effectiveness, and modest but recently increasing amounts on district effectiveness. Good representatives of research results from this literature can be found, for example, in Brophy (n.d.) on teacher and classroom effectiveness, in Stringfield and Herman (1996) on school effectiveness, and in Anderson and Togneri (2005) on district effectiveness.

Research flying the "effectiveness" banner, however, has a distinctive character no matter which level of the school system it concerns. For example, it tends to focus on a narrow and traditional set of student outcomes as the basis for judging effectiveness. It does not call into question the basic characteristics of existing schools, taking them, rather, as givens; it promotes a relatively aggressive and directive image of school leadership; and it is premised on assumptions about school organizations as bureaucracies.

This literature can only be considered future oriented in a very narrow sense. For schools in troubled environments, serving many students from disadvantaged backgrounds and experiencing difficulty helping those students to meet minimum, basic educational expectations, this literature describes what has worked for some schools and what might work for others. It is a literature that depicts a modest but worthwhile short-term future for schools faced with a particular set of narrowly proscribed but difficult problems.

A third type of literature on which the monitoring system was based concerns the reengineering and "restructuring" of organizations, both school and nonschool organizations. This is a quickly growing body of literature heavily weighted with provocative suggestions for change, sensitive to the general trend toward the democratization of social institutions worldwide, and centrally premised on assumptions about individual empowerment. Its empirical grounding is, as yet, quite weak, as compared with the literature on teacher effectiveness, for example. The distinctive characteristic of this body of literature, when it considers schools, is to focus on a broad, ambitious, and nontraditional set of student outcomes; its questioning of traditional school social structures; and its promotion of facilitative and transformational forms of leadership. Consistent with directions evident in many leading-edge, nonschool organizations, this literature assumes that bureaucracy is anathema to progress and is to be replaced by more community-like social structures.

Prototypical of this literature in education are the syntheses provided by Conley (1991) and Beck and Foster (1999). Heckscher and Donnellon's (1994) *The Post-Bureaucratic Organization* is a good representation of the organizational restructuring literature outside of schools. This restructuring literature is clearly future oriented. In its consideration of schools, the effects of many of its key proposals on the growth of students remains to be determined empirically (for example, site-based management). But for some restructuring advocates, that is not an essential link; a more democratic institution is a worthwhile end in itself. The restructuring literature imagines a quite ambitious, intermediate-term future for a broad spectrum of schools.

Finally, we attempted to reflect, in the monitoring system, the implications for schools of a literature concerned with broad social trends and how to respond to them organizationally. Examples of this category of literature include Schwartz's (1991) *The Art of the Long View* and Senge's (1990) *The Fifth Discipline*. This literature is sometimes quite speculative, but it does stretch the future horizon to something more distant than do the other categories of literature reviewed.

We used these four literatures in an effort to model important features of a school and district that would be effective in the present and have the capacity to gradually transform itself into the kind of school and district that would also be effective 10 years from now. Use of the monitoring system allows a school and district to compare itself with this model, identifying changes it feels would be useful to make to more fully approximate some aspects of the model school and district it especially values.

## SUMMARY

The model on which the monitoring system is based consists of five dimensions: inputs (for example, family educational culture), district and school processes (for example, mission and goals, culture), and both immediate and long-term outcomes (for example, student achievement, preparation for work). A total of 35 specific factors, variables, or elements of the school and district are distributed across these five dimensions. The overall model, as well as its specific features, emerged from a synthesis of theory and research about professional learning communities and about effective classrooms, schools, and districts. As well, the model reflects theory and research about large-scale reform and about the future implications for education of broad social trends that currently seem to be of consequence.

Although tempting, the relationships among dimensions and specific features of the model cannot be considered causal. A more realistic description in some cases would be "interactive." Nevertheless, there will be instances of use of the monitoring system in which examining some relationships as causal makes sense. Research evidence about some such relationships is quite robust, but this is not generally the case. Long-term applications of the monitoring system, however, have the potential to teach us more about these relationships.

Because a central purpose for the monitoring system is to pinpoint district and/or school processes that might serve as a focus for change, the model is

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relatively detailed. Such detail may be unnecessary when the monitoring system is used for other purposes. For example, reporting progress in implementing reforms, accounting to the public for use of resources or providing individual schools with information bearing on specific priorities they have—these would be purposes that could be well served by using only selected features of the district monitoring system.

Finally, the monitoring system was designed to be used within the framework of an organization's directions for change. But it is also sensible to expect such directions to emerge out of initial uses of the monitoring system. Because the monitoring system is based on an ideal—but attainable—model for a school and district, finding discrepancies between that ideal and the realities of one's own organization provides a clear and defensible alternative—or supplement—to more conventional methods for school and district improvement.