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## Data-Based Decision Making and the Improvement Process

### WHAT DO THE EXPERTS SAY?

It's all about continuous school improvement. Everything centers on student achievement. Article after article provide tips about improving student performance. Book after book include a variety of strategies outlined to increase student understanding. Excellent resources are plentiful. Without a focus, the use of these resources may have no impact on achievement. So what role do data play in the improvement process? Data supply the focus and identify the target. Through the collection and analysis of data, needs are recognized. Data-based goals are created. When incorporated into an improvement plan, impact on achievement is not only possible but likely.

According to Jones and Mulvenon (2003), an increasing amount of evidence supports the impact data have on student achievement. Jones and Mulvenon state that "when teachers and principals track student achievement systematically, they can make adjustments in the educational system that result in real improvements in student achievement" (p. 13).

When data are an integral part of the teaching, learning, and decision-making processes, a data culture can be established. All district stakeholders need to share the belief that data are an essential component

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of instructional decision making for students. “Good data are as much a resource as staff, books, and computers” (National Forum on Education Statistics, 2004, p. 3).

Data-driven districts provide the opportunity for administrators and teachers to work together in providing a district focus on student achievement. Everyone, including the superintendent, strives to achieve common data-based goals. “Data provide quantifiable proof taking the emotion” out of tough, but necessary, data-based decisions. (American Association of School Administrators, 2002, p. 1). The district becomes data focused and results oriented.

When reviewing a group of high-performing districts, the Educational Research Service found that these districts use multiple sources of data to guide decision making. Decisions are “based on data, not instinct” (Cawelti, 2004, p. 21). A well-balanced supply of data reviewed regularly will provide the basis for valuable observations and point toward potential solutions.

Time is an important component in the data review process. For data to have an effect on the improvement process, discussions need to occur. Rich conversations need to surround data collection and analysis. Data are turned into information; information is used to establish and pursue shared goals (Kline, Kuklis, & Zmuda, 2004, p. 87).

Although data analysis and the implementation of change can be seen as an arduous process, the resulting evidence of improved student achievement is stimulating. Success breeds success. Teachers become committed to the continuous improvement process (Danna, 2004, pp. 26–27).

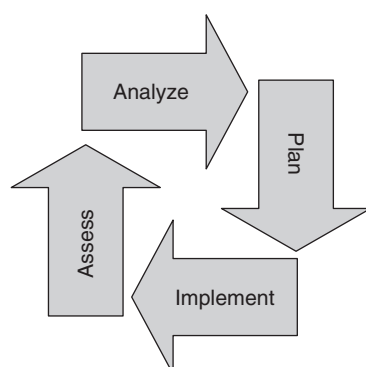
Data review leads to the development of meaningful goals. In many cases, districts have similar, often impressive goals. When not data based, however, the goal may not be linked to student achievement or to an actual need within the district. The “emphasis on the data guards against seemingly impressive, but actually quite imprecise goals” (Schmoker, 2001, p. 36).

It is clear that the use of data needs to be an integral part of the continuous improvement process.

### THE PROCESS

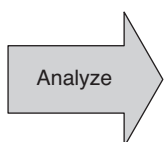
For data analysis to ultimately have an impact on student achievement, it needs to be part of a cyclical process. When data analysis is viewed as one step in a system, its use will become integral to the workings of the organization. Without a process, data analysis can be only an event. Time is spent viewing and analyzing data, but there is no intended result other than to comment on what is observed. Although time is not wasted, data viewed without a process will not likely become a catalyst for change.

## THE IMPROVEMENT CYCLE



The following four-step process uses data as an integral part of an improvement cycle.

### Step 1



Data analysis is a foundational part of the improvement cycle. Data provide evidence of system successes and challenges. The intent of analysis is to gather results that illustrate the effectiveness of current methods, procedures, and structures.

The Five W's (who, what, when, where, why) provide a summary of analysis components. More specific information is included in the chapters that follow.

*Who* should be involved in the analysis process? For data to become integral to the workings of the district, data must be shared and analyzed by all key stakeholders. Although the level and type of data may differ, opportunities for review should be provided for groups including, but not limited to, administrators, teachers, students, and parents.

*What* data should be analyzed? A combination of data needs to be collected and available to create a balanced picture of the school or district. Data should be viewed at the classroom, school, and district levels and include a balance of classroom, grade level, district, and standardized assessments. Attitudinal data can also be valuable to the process. Demographic and other nonassessment data help create a well-rounded view.

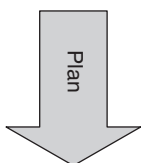
*When* should data be analyzed? Data reviews should take place as new data arrive. This may be weekly, monthly, or at select times of the year. Collective data should be reviewed annually. As questions arise, data should be reviewed as appropriate to assist in arriving at answers. Data should also be reviewed during program evaluation periods.

*Where* should data be collected? Data should be collected at places where it will be most effectively used. In other words, the classroom teacher collects a variety of data to make daily instructional decisions. School and district data, which would include performance, demographic,

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and attitudinal data, are important to collect at those levels. The data review group should consist of members who are affected by the results.

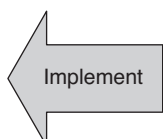
*Why* should data be analyzed? Data should be reviewed to evaluate all aspects of the classroom, school, and district as they relate to student achievement.



### Step 2

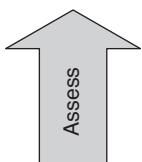
The purpose of the analysis process is to review data to generate questions, ideas, conclusions, and comparisons, which, collectively, aid in the creation of an improvement plan. The intent of the plan is to answer the following question: What will we do about the results that we see? Improvement planning is not about what people want to do, or what they think they might want to focus on, but what the data tell them they need to do to increase the achievement of the students. Long- and short-term improvement goals are established.

Generating plans to reach goals requires the involvement of teachers and administrators at the school and district levels. At each level, plans need to be created that reflect the data. Classroom, school, and district plans should be mutually supportive. The district plan is developed to reflect challenges represented in the data at the district level. Through the analysis of school and district data, a school plan is developed. District results consist of collective school data; therefore, the plans will be mutually supportive. Classroom plans are designed to reflect classroom data as well as support school and district goals. Figure 1.1 illustrates one model that can be used for plan development. It highlights the components that should be considered before implementation. Figure 1.2 is the same planning form containing explanations and directions to better understand form components. The planning form can be typed into a table so that the sections can expand to meet the needs of the group.



### Step 3

Plan implementation requires the involvement of all parties who are reflected in and affected by the plan. District staff should be knowledgeable and supportive. School staff should be clear on their key roles in the plan and its implementation. The involvement and support of students and parents is essential for the greatest impact on achievement. Analysis, planning, implementation, and assessment, although parts of a constant and continuous cycle, will likely be part of a three- to five-year plan.



### Step 4

Assessment takes a variety of forms and is ongoing. Types and times of assessments are identified during the planning process. The goal is to assess the effectiveness of the plan throughout implementation. These assessment tools create a focus to evaluate the key components of the plan.

**Figure 1.1** Improvement Planning Form

<b>IMPROVEMENT PLANNING FORM</b>		
<b>District/School</b>		
<b>Identified Need From Data</b>		
<b>District/School Goals</b>		
<b>Improvement Plan Description</b>		
<b>Specific Improvement Plan Steps/Activities</b>	<b>Person(s) Responsible</b>	<b>Time Frame</b>
<b>Research to Support Improvement Plan</b>		
<b>Description</b>		<b>Source(s)</b>
<b>Assessment Plan</b>		
<b>Budget</b>		
<b>Item</b>	<b>Cost</b>	
	<b>Total</b>	

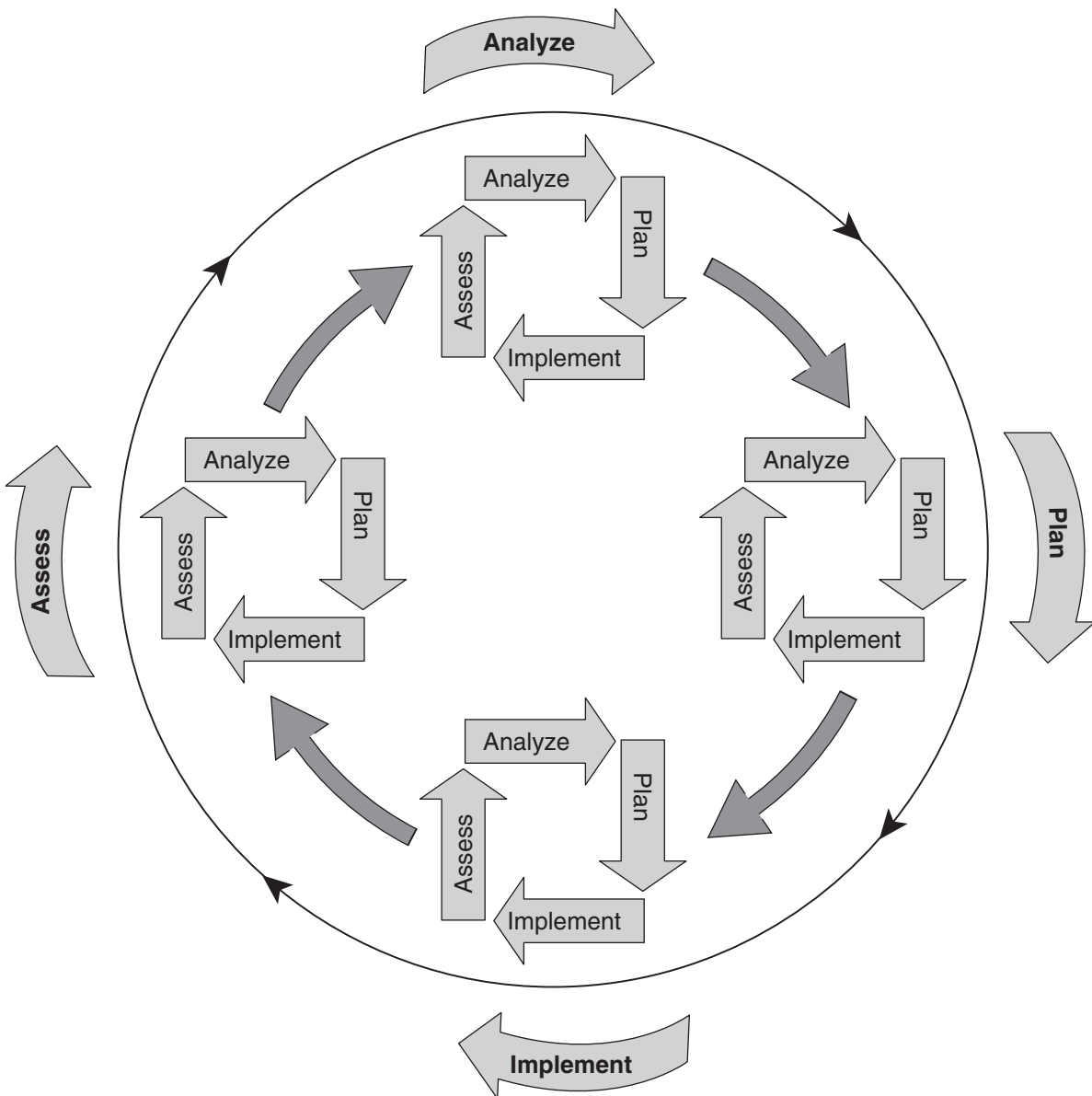
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Figure 1.2 Improvement Planning Form Example

<b>IMPROVEMENT PLANNING FORM</b>		
<b>District/School</b>		
<i>A planning form should be completed at the district level reflecting district information. It should also be completed for each school in the district reflecting their data and plans.</i>		
<b>Identified Need From Data</b>		
<i>Create a summary. What did the data reveal? What challenge areas surfaced? Be specific.</i>		
<b>District/School Goals</b>		
<i>As a result of the data analysis, what goals are indicated? The number of goals should be limited so that focus can be maintained. Goals should be specific and set within an achievement time frame.</i>		
<b>Improvement Plan Description</b>		
<i>How will the goals be achieved? What plans, programs, strategies, professional development opportunities, and so on need to be implemented to achieve the goals?</i>		
<b>Specific Improvement Plan Steps/Activities</b>	<b>Person(s) Responsible</b>	<b>Time Frame</b>
<i>Provide information about the specific steps of the plan, including who is responsible for each step and when the step will be accomplished.</i>		
<b>Research to Support Improvement Plan</b>		
<b>Description</b>		<b>Source(s)</b>
<i>Plans need to be based on strategies that are believed to be successful. What research supports the ideas and steps outlined in the plan?</i>		
<b>Assessment Plan</b>		
<i>How will the plan be evaluated? How will data be gathered and shared? What will be the indication of success?</i>		
<b>Budget</b>		
<b>Item</b>		<b>Cost</b>
<i>Does the plan have a budgetary impact? What is needed and at what cost?</i>		
<b>Total</b>		

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**Figure 1.3** The Complete Improvement Cycle Diagram

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The improvement cycle has both short- and long-term components. The larger plan may last three to five years. During that time, however, shorter cycles are also in the works, and progress of the plan's implementation is evaluated. The shorter cycles, which last up to a year, include analysis, planning, implementation, and assessment. To visualize the complexity of the improvement cycle, think of a double Ferris wheel. The outer wheel, as illustrated in Figure 1.3, is moving in slow rotation, whereas the inner wheels are spinning and continuing on their outer wheel path.

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When a district begins to implement a continuous improvement cycle, an expectation needs to be set. The expectation is that all schools within the district actively implement the improvement cycle. Early in the improvement process, the process is an expectation. In time, the expectation is the process.

### CLOSING THOUGHTS

Data are key to an effective cycle of continuous improvement. The focus is continuous growth in student achievement. Through data analysis and discussion, district weaknesses are identified. These provide the improvement targets. The use of an improvement cycle supplies a process by which plans can be created and implemented to support the elimination of identified challenges.

The chapters that follow suggest a variety of ways to represent, share, and use data within the continuous improvement cycle.