

Using
**Curriculum
Mapping &
Assessment
Data** to
**Improve
Learning**

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Foreword by Heidi Hayes Jacobs



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Preface

Three questions are at the center of our work toward improving student achievement:

1. What do we want students to know and be able to do?
2. What evidence do we have that they are learning what we have identified?
3. What do we do with what we learn about their learning to help them grow and improve? (DuFour, Eaker, & DuFour, 2005)

Traditionally, we have used parallel assessment, curriculum development, and management processes to answer these questions. We have studied our student learning by examining the results of state, national, and local assessments. In addition, school committees have worked on the development and revision of curriculum, which has often resulted in the purchase of new textbooks or programs. However, in many of our systems, these processes have been separate and disconnected rather than intersected and building on one another.

All of the information that can be extracted from our assessment and curriculum processes could be defined as data. With advances in technology, the ability to access this type of data has been completely transformed. Our tired minds must no longer confront and try to make sense of dozens of papers and reports coded with numbers. Now with Web-based access to bar charts, pie charts, and other means of transforming the raw numbers into meaningful data, we can more easily identify patterns and trends. With those summaries in front of us, the time we might have spent counting and sorting can instead be used for professional dialogue about the meaning of the data. This focus on using data as the basis for making decisions will help us answer the third question—what do we need to do to improve student learning—and needs to exist at every level of the organization.

- Classroom teachers need to be able to make decisions that affect their daily instruction.
- Grade, course, and department groups need to make decisions that collectively will affect the way their courses of study are designed.
- Building-level teachers and administrators need to have a dialogue about the important narrative of a student's journey longitudinally across time.

- Conversations about building-level decisions need to occur across buildings.
- And finally, central administration needs to communicate the wisdom that has been gleaned from all of the conversations, and make systemic decisions about change.

What has propelled the emphasis on accountability are explicit statements of performance against standards from both state and national organizations, including state departments of education. Standards that were perhaps previously tacit and may or may not have been operating in individual classrooms now have become explicitly stated and agreed upon across an entire district. However, the transition to standards-based schools has not been without struggle. Attempting to provide clarity of expectations, as well as determining how student performance should be measured, has led to frequent changes of direction in curriculum and instructional methods. We currently have named more standards than can ever be addressed in 12 years of schooling (Marzano & Kendall, 1998).

The hard work of becoming effective, standards-based schools continues. Feedback from educators has led many states to develop performance indicators that break down the larger, conceptual standards statements they originally endorsed. This work is deeply associated with our value systems since the standards are statements of what we most value for students to learn. The process of breaking down the standards and naming developmental stages for performance has led educators to wrestle with when and how these standards are best attained and how they are best measured.

As this dilemma between districts and states continues, children keep pouring into our schools. We cannot wait for differences to be settled. Hence, schools take an active position with this work. Many schools engage in the process of identifying what they consider to be “power standards”—those standards that are most enduring, provide leverage for next year’s work, and provide the best opportunities for interdisciplinary connections (Ainsworth, 2003). This process helps to narrow what is required in a standards-based curriculum. Another significant practice has been for teachers to come together to work on aligning their curriculum to standards.

At the same time that standards were becoming the currency of conversations about curriculum, Heidi Hayes Jacobs provided a model for analyzing curriculum—curriculum mapping (Jacobs, 1997). Her work introduced a method for seeing curriculum as data. Rather than using the traditional curriculum guides that are so text heavy that they would be difficult to analyze, Jacobs’ model shows educators how to break the curriculum into categories such as essential questions, content, skills, and assessments. This process of developing curriculum maps provides

a new and effective method for examining the taught curriculum. By creating a curriculum map that is separated into data, we are able to unpack a given standard for the purpose of alignment. Once again, advances in technology have accelerated this process so that each element of the curriculum can now be separated into individually accessible and searchable data fields.

Figure 0.1 Example of a Curriculum Map

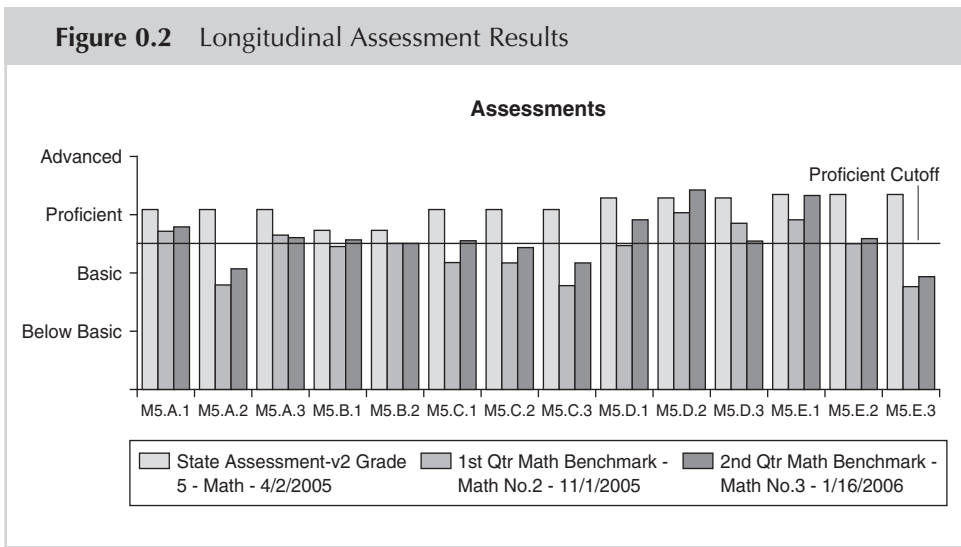
Essential Questions	Content	Skills	Assessments	Lessons	Instructional Support	Standards
How can graphs be used to interpret data?	<ul style="list-style-type: none"> Bar Graphs Data Sets 	<ul style="list-style-type: none"> Creates a bar graph given a data set solves problems by collecting, organizing, displaying, and interpreting sets of data uses organizational structures to analyze and describe patterns and relationships 	<ul style="list-style-type: none"> Graphs Unit Assessment - performance assessment 7/31/2007 	<ul style="list-style-type: none"> Graph Design Issues - D- 7/26/2007 Constructing Bar Graphs - D- 7/27/2007 Problem Solving Using Graphs - 01 - D- 7/28/2007 	<ul style="list-style-type: none"> USA Today newspapers Graph paper School sport team's season data for last three years 	<ul style="list-style-type: none"> 08.D.3a ~ Solve problems using n... 10.A.3a ~ Construct, read and in...

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Curriculum is analyzed to find gaps—are there standards that have not been addressed? Repetitions—are there topics in content that repeat without any significant changes in the material? Spirals—places where the curriculum spirals and builds in complexity? Are thinking skills focused and to what level? These curriculum conversations help us to answer the first question—what is it that we want students to know and be able to do?

The second question, what evidence do we have that tells us about how well students are measuring up to standards, is answered by an analysis of assessment results. Once again, with technology as a tool, we are able to easily access charts and graphs that aggregate and disaggregate data from national, state, district, and classroom assessments. We are able to see a more complete picture of student performance by looking at a student's portfolio of assessment results across time.

This book provides some possible intersecting paths for answering the three fundamental questions. We show examples of how maps are used to examine and revise curriculum; how assessment data is organized and displayed so that the data can be examined to determine what



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changes in curriculum and instruction need to take place; suggestions about professional dialogue show how schools are attempting to answer the third question. The end result is to show the intersection between curriculum and assessment data that is necessary to make data-informed decisions.

The first chapter provides an introduction to a vision for this work, and the required elements of change within an organization to support this vision. It addresses the important questions that are always asked: Why are we doing this? What is the purpose of this work? What can we expect the outcomes might be? Is this a plan of the day or will it be sustained over time?

The second chapter focuses on the critical role the proper incentives play in changing the culture so that the work can be sustained. We look at some practices that contributed to successful implementation of new practices. In this chapter we also explore how the data serves as an important vehicle for establishing leadership in the schools with particular attention to distributing leadership throughout the system.

In the third chapter we explore the data sources for curriculum and assessment and then show ways to maximize the intersection of those sources for more informed decision-making. The possibilities for analysis of data lead to the fourth chapter in which we provide protocols to help facilitate the conversations among educators regarding the data. Although the results can be provided with numbers, patterns, and trends, ultimately the conversations that focus on a close examination of this information is at the heart of the potential to change curriculum, instruction, and assessment to the benefit of student achievement.

Chapters 5 through 7 offer case studies. The stories from the field are honest and rich. They offer an opportunity for learning as the authors

describe their visions, how they brought their work successfully to their districts, and how they sustained their work over time.

Finally, we address the challenges that we continue to face and some tips on how to meet those challenges in Chapter 8. This is hard work—we appreciate the many people who have joined us in the work to make this book possible.

1 Transforming to a Data- Informed Culture

The future is not a result of choices among alternative paths offered by the present, but a place that is created—created first in mind and will, created next in activity. The future is not some place we are going to, but one we are creating. The paths are not to be found, but made, and the activity of making them changes both the maker and the destination.

—John Schaar

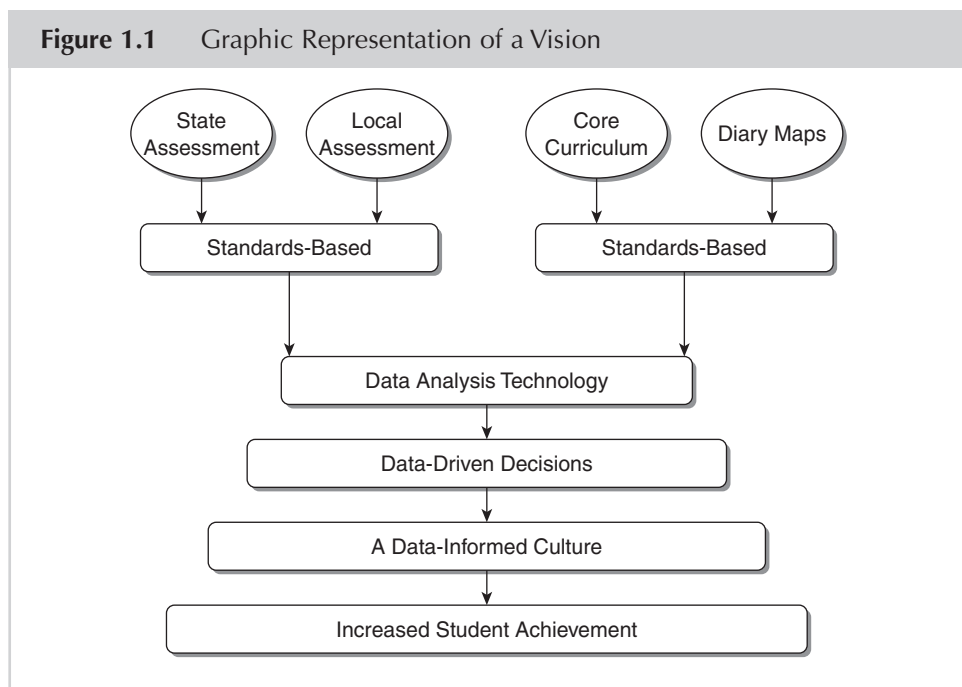
If you don't have a clear sense of where you are going, it is easy to lose your way. If the vision within an organization cannot be translated into practical terms, it will also lose its way. Given there is a desire to change the way we use data to increase student achievement, Ambrose suggests there are key ingredients that lead to systemic change—a set of elements that guide the path for change (Ambrose, 1996). The elements include a shared vision in the organization and people in the organization who are skillful enough to realize what the vision implies in practical terms. It is necessary that there be an **incentive** for doing the work, the required **resources** available, and an **action plan** that provides confidence the work will proceed and not just be another false start.

In this chapter we will consider the need for a shared vision and then examine the resources required to realize the vision. We follow with an action plan that includes building the skills of the educators as well as

attending to necessary resources. We also place special attention on the role of technology, as it is a critical resource for accomplishing this work.

CREATING A VISION

Imagining what is possible and aiming for the most positive vision of what should be done to create a data-informed culture is a necessary first step. The vision provides clarity about where the district is going and why it is purposefully moving in that direction. In our work, we use Figure 1.1 to represent a vision of the intersection of assessment and curriculum data that will lead to making better decisions about how to increase student achievement.



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In Figure 1.1, the vision is divided into five clear statements:

- We may start with a foundation of standards-based assessment and curriculum data from multiple perspectives.
- We must use technology as a tool to help us.
- Data will drive our decisions.
- Informed decisions (based on that data) will ultimately be made about assessment and curriculum.
- The end goal is increased student achievement.