

What is Data?

Data is more than just numbers and test scores. Data includes any information that helps us learn about learning.

Data can include:

- District student achievement
- State assessment performance
- Graduation or promotion requirements
- Content area and grade level requirements
- Perceptions
- Behavior
- Attendance

It is important when analyzing data to consider not only the Tier One Indicators (effect data), such as student achievement results, but also the Tier Two Indicators (cause variables), such as adult behaviors and indicators in teaching, curriculum, leadership and other factors that influence student achievement (Reeves, 2004).

Examples of Tier One Indicators	Examples of Tier Two Indicators
<ul style="list-style-type: none">• District student achievement.• State assessment performance.• Graduation or promotion requirements.• Content area and grade level requirements.	<ul style="list-style-type: none">• Percentage of assessments scored collaboratively by classroom teachers with specific criteria.• Percentage of time spent with small group instruction.• Percentage of disciplinary actions that result in out-of-school suspension.• Percentage of homework that is devoted to writing in the content area.• Percentage of teachers engaged in bi-monthly data team meetings.

Data-Driven Decision Making Process (DDDM)

Process	Sample Questions/Steps	Tools/Resources
Step 1: Treasure Hunt	<p>What trends, strengths and/or areas of concern do you find over the last three years of your Tier One data?</p> <p>How do students perform from one year to the next (cohort) and over time?</p> <p>What percentages of students are meeting state standards?</p> <p>Has this changed? How?</p> <p>Do gaps exist amongs subgroups (ethnicity, socioeconomic status, special education and ELL)?</p> <p>Do gender gaps exist?</p> <p>What relationship, if any, exists in performance across content areas?</p>	<p>State, district and school achievement data</p> <p>Other data (e.g., attendance, behavior, suspension, expulsion, supplemental service, etc.)</p> <p>District data technology tools</p> <p>DDDM Data Template</p>
Step 2: Analyze Data	<p>What areas should be celebrated and what adult actions contributed to the performance?</p> <p>Which areas have the greatest potential for growth?</p> <p>Which areas are of most urgent need?</p> <p>What curriculum, instruction or assessment realities may be contributing to data results?</p> <p>What school practices (remediation, before/after school intervention, etc.) influence the data results?</p> <p>What is the root cause of data results?</p>	<p>Root Cause Fishbone*</p> <p>District data technology tools</p> <p>DDDM Data Organizer*</p> <p>DDDM Data Analysis*</p>
Step 3: Prioritize Needs	<p>What content areas, standards or strands need attention?</p> <p>Will efforts in one area improve results in another area?</p> <p>Will efforts in a specific area better prepare our students for the next step in learning?</p> <p>Will the identified need support lifelong learning?</p>	<p>DDDM Prioritize Needs Analysis Organizer*</p>
Step 4: Set Goals (no more than 4-6)	<p>What are the most important objectives for student achievement based on the challenges your team identified through analyzing and prioritizing the data?</p> <p>Based on your needs analysis, should your goals remain the same in the improvement plan or do they need to be revised?</p> <p>SMART goal example: Percentage of Grade 7 students scoring at proficiency or higher will increase from 56 percent to 66 percent by the end of the 2006-2007 school year as measured by the district required math assessment administered in June 2007.</p>	<p>SMART goal format*</p> <p>Specific</p> <p>Measurable</p> <p>Achievable</p> <p>Realistic</p> <p>Time bound</p> <p>District/school improvement plan</p>
Step 5: Identify Strategies	<p>What previous or current strategies have been most successful (how do you know) and will they be continued?</p> <p>What previous or current strategies have not been successful (how do you know) and will they be discontinued?</p> <p>For each goal:</p> <ol style="list-style-type: none"> 1. Brainstorm Tier Two strategies that could be implemented to increase the likelihood of achieving that prioritized goal. 2. List strategies in priority order. 3. Give priority to those strategies that are specific, measurable and action-oriented. 	<p>DDDM Identifying Strategies Worksheet*</p> <p>Root Cause Fishbone*</p> <p>District/school improvement plan</p>
Step 6: Determine Results Indicators	<p>What results indicators can we gather and analyze on a regular basis throughout the year to determine if the strategies are proving effective in increasing student performance?</p> <p>Each strategy should contain one or more results indicators that identify:</p> <ul style="list-style-type: none"> • Whether the strategy is actually being implemented as designed. • If it is being implemented as designed, is it having the desired effect on student learning? 	<p>DDDM Monitoring Implementation of Strategies*</p> <p>District/school improvement plan</p>



DATA-DRIVEN DECISION MAKING: A DESKTOP REFERENCE GUIDE

Data-Driven Decision Making for District and School Level Data Teams

Introduction

The Connecticut State Department of Education (CSDE) has developed and implemented the Connecticut Accountability for Learning Initiative (CALI) to accelerate the learning of **all** students and to close the achievement gap in the state. As part of this work, the CSDE has partnered with the Center for Performance Assessment, Regional Educational Service Centers (RESCs), and the State Education Resource Center (SERC) to provide district- and school-level training and technical assistance in the following key areas:

- *Data-Driven Decision Making (DDDM)*: ongoing review of data by district leaders, building leaders and teachers to determine strengths and areas in need of improvement at the district level and the school level
- *Data Teams (DT)*: ongoing analysis of data from common formative assessments in order to identify strengths and weaknesses in student learning, and to identify instructional strategies that will best address student learning objectives in the classroom
- *Making Standards Work (MSW)*: aligning district and school expectations to state standards and developing classroom-based instruction and assessments to improve student performance
- *Effective Teaching Strategies (ETS)*: applying research-based, effective instructional strategies identified in “Classroom Instruction that Works” (Marzano et al., 2001), and nonfiction writing (Reeves, 2004) to develop lesson plans that best meet student needs

This guide provides an overview of Data-Driven Decision Making. Your RESC or SERC are available to provide support in the implementation of the Data-Driven Decision Making process. Document titles in this guide that are followed by an asterisk are available in electronic form on the Connecticut State Department of Education website:

- Go to <http://www.ct.gov/sde>
- On the left side of the page, click “School and District”
- Click School Improvement/Connecticut Accountability for Learning Initiative
- Click “Data-Driven Decision Making” on the diagram for resources



Connecticut Accountability for Learning Initiative

You can begin with any one of these powerful practices:



Rationale:

The Connecticut Accountability for Learning Initiative is based on the findings of nationally recognized researchers including Dr. Douglas Reeves, Dr. Michael Schmoker, Dr. Robert Marzano, Dr. Richard Elmore, Dr. John Simpson and others. Their work provides evidence that schools with high rates of poverty and high percentages of ethnic minorities in their student populations can achieve high academic performance. Common characteristics of these high-achieving schools include:

- A clear focus on achievement
- Standards-based curriculum that emphasizes the core subject areas of reading, mathematics and writing
- Use of data to inform instructional and leadership decisions
- Frequent assessment of student progress and multiple opportunities for student improvement
- An emphasis on research-based effective teaching strategies,

including nonfiction writing

- Collaborative teams focused on student learning
- All adults held accountable for student achievement

“If teachers [and leaders] systematically examine their professional practices and their impact on student achievement, the results of such reflective analysis will finally transform educational accountability from a destructive and unedifying mess to a constructive and transformative force in education” (Reeves, 2004, p. 6).

Data-Driven Decision Making: District and School Level

Data-Driven Decision Making (DDDM) is an essential process that should be used as the basis for all district and school decisions to improve student achievement. The process generally begins with a collaborative analysis of what Douglas Reeves calls “Tier One Indicators,” or “effect” data (Reeves, 2004). Tier One data are systemwide indicators that are required by federal and state statutes. These data points apply to every school in a district and may, for example, include state test scores, attendance figures and dropout rates.

While it is important to know where the students in your district are, it is equally important to know how they got there. Accordingly, the DDDM process not only analyzes Tier One Indicators, but also analyzes “Tier Two Indicators,” or “cause” data. Tier Two Indicators are measurable practices that reflect the decisions of the adults in the school. Some examples of Tier Two Indicators that Reeves provides are: the number of times a month teachers convene in data team meetings; the percentage of assessments that are collaboratively scored; or the time devoted to nonfiction writing. By analyzing the relationship between Tier One and Tier Two Indicators, districts and schools can determine which practices yield the greatest improvements in student performance (Reeves, 2004).

DDDM can be used to investigate the following essential questions:

- How is your school or district performing as a learning institution?
- Are all students learning?
- What do you expect students to know and be able to do by the end of the year?
- Do you know why you are getting the results you currently have?
- What practices do you want to continue, replicate or eliminate?

DDDM is a six step on-going process that should be used at the school and district level. The six steps are:

1. Find the data: "Treasure Hunt" Find three years of trend data and matched cohort data that includes such things as student achievement, discipline, expulsion, etc.
2. Analyze the data: Identify your strengths or needs.
3. Prioritize needs analysis: Prioritize the needs and determine where to focus (e.g., particular subgroups, particular academic areas, discipline, etc.) keeping in mind that it is better to do a few things well than to try to do it all and accomplish nothing.
4. Set, review or revise annual goals: Identify specific, measurable, achievable, relevant, time-bound (SMART) goals.
5. Identify specific strategies to meet goals: Identify and prioritize district, school and classroom actions that lead to the attainment of the goal.
6. Determine results indicators: Describe how you will know if the strategies are being implemented and are effective.

Resources

Ainsworth, Larry. (2003). Power standards: Identifying the standards that matter most. Englewood, CO: Advanced Learning Press.

Ainsworth, Larry. (2003). Unwrapping the standards: A simple process to make standards manageable. Englewood, CO: Advanced Learning Press.

Connecticut Accountability for Learning Initiative. <<http://www.sdecali.net>>

Connecticut State Department of Education. <<http://www.ct.gov/sde>>

DuFour, R., DuFour, R., & Eaker, R. (2005). On common ground: The power of professional learning communities. Bloomington, IN: National Education Service.

Marzano, R., Norford, J.S., Paynter, D.E., Pickering, D.J. & Gaddy, B.B. (2001). A handbook for classroom instruction that works. Alexandria, VA: Association for Supervision and Curriculum Development.

Marzano, R.J., Pickering, D.J., & Pollock, J.E. (2001). Classroom instruction that works. Alexandria, VA: Association for Supervision and Curriculum Development.

Reeves, D. B. (2001). 101 questions and answers about standards, assessment, and accountability. Denver, CO: Advanced Learning Press.

Reeves, D. B. (2002). Making standards work: How to implement standards-based assessments in the classroom, school and district. Denver, CO: Advanced Learning Press.

Reeves, D. B. (2002). The daily disciplines of leadership: How to improve student achievement, staff motivation, and personal organization. San Francisco, CA: Jossey-Bass.

Reeves, D. B. (2004). Accountability for learning: How teachers and school leaders can take charge. Alexandria, VA: Association for Supervision and Curriculum Development.

Reeves, D. B. (2004a). 101 more questions and answers about standards, assessment, and accountability. Englewood, CO: Advanced Learning Press.

The Center for Performance Assessment. <<http://www.makingstandardswork.com>>.

This guide is a collaborative effort among the following groups: Connecticut State Department of Education, the Regional Education Service Centers, the State Education Resource Center, and the Center for Performance Assessment.

The State of Connecticut Department of Education is committed to a policy of equal opportunity/ affirmative action for all qualified persons and does not discriminate in any employment practice, education program, or educational activity on the basis of race, color, national origin, sex, disability, age, religion or any other basis prohibited by Connecticut state and/or federal nondiscrimination laws. Inquiries regarding the Department of Education's nondiscrimination policies should be directed to the Affirmative Action Administrator, State of Connecticut Department of Education, 165 Capitol Avenue, Hartford, Connecticut 06106, (860) 713-6530.