



Technical Guide to
**School and District
Factors Impacting
Student Learning**



AdvancED is the parent organization for NCACASI, NSSE, and SACSCASI

School and District Factors Impacting Student Learning

In April 2006, the North Central Association Commission on Accreditation and School Improvement (NCA CASI), the Southern Association of Colleges and Schools Council on Accreditation and School Improvement (SACS CASI), and the National Study of School Evaluation (NSSE) came together to form one strong and unified organization under the name AdvancED.

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Related Resources:

Breakthrough School Improvement:

An Action Guide for Greater and Faster Results (NSSE, 2005)

Breakthrough School Improvement:

Resources and Tools (NSSE, 2006)

Accreditation for Quality Schools:

A Practitioners' Guide (AdvancED, 2007)

Accreditation for Quality School Systems:

A Practitioners' Guide (AdvancED, 2007)

Background

In 1933, NSSE, the Research and Development arm of the regional accreditation commissions, began to study key questions about schools and their improvement. In recent years, products and services identified as “research-based and data-driven” were offered in the accreditation and school improvement marketplace. In 2004, the organization recommitted to its stance of rigor in its research base and identified characteristics of products and services that are described as “research-based.”

“A product (service) that is research-based has:

- research commenced prior to the product’s development;
- its development significantly shaped by research findings;
- advanced or operationalized a theory or theory-based model; or
- an explicit statement of the relationship to research findings”

These characteristics are contrasted with “research-aligned” products and services that are described as:

“A product (service) that is research-aligned has:

- research identified to support the product after its design
- a relationship to research by association
- implicit references to alignment with research”

Purpose of the Technical Guide

The purpose of this technical guide is to provide information about the research base influencing the development of the following products:

Accreditation for Quality School Systems: A Practitioners’ Guide (AdvancED, 2007)

Accreditation for Quality Schools: A Practitioners’ Guide (NSSE, 2005)

Breakthrough School Improvement: An Action Guide for Greater and Faster Results (NSSE, 2005)

Breakthrough School Improvement: Resources and Tools (NSSE, 2006)

This guide is available at no cost to districts and schools as a PDF document at www.advanc-ed.org. Because research continuously informs the work of product development at AdvancED, the research base is continually being updated. Customers are urged to look for research updates on the AdvancED website at regular intervals.

Purpose and Parameters of the Review of the Research

An ongoing challenge to educators is to find the “silver bullet” that will improve schools—the best tool, talent or technique that boosts performances of students, staff and stakeholders. Though we wish we could identify a single factor that significantly improves achievement; we know, as educators and researchers, a complex set of factors interact to improve student achievement. The purpose of reviewing the research about student achievement is to be as descriptive as possible about the ideal context of systems and schools that supports continuous improvement of teaching and learning.

Research selected within the scope of this review included factors that contribute to student achievement and factors that contribute to conditions that influence student achievement—within

the scope of the school and school system. Original research findings, research syntheses and meta-analyses were reviewed as well as research from the domains of policy and practice. Research included findings that were derived both qualitatively and quantitatively.

Methodology of the Analysis of Findings

Research findings from diverse sources were annotated and treated as qualitative data. Qualitative data analysis includes data reduction (e.g., finding, managing, reading, and annotating), data display (e.g., categorizing, linking, connecting categories), and conclusion drawing (e.g., corroborating and verifying).¹ Themes across and within categories of data emerged and allowed the researchers to develop a taxonomy of 3 primary categories and 29 subcategories of factors impacting student achievement. The factors are not hierarchically ordered within the categories.

To give the taxonomy utility for school improvement, researchers described the categories as “core tasks” to improve a school system (either a single school or a district or other grouping of schools). The subcategories are described as “effective practices” that contribute to each core task. Five “organizational conditions” have also been identified as important to both the tasks and practices.

Description of the Results of the Analysis

A number of organizational conditions and effective practices within a school system that can contribute to improved student learning were identified as a result of this research.

Organizational Conditions of Improving School Systems

Five organizational conditions for improving school systems provide a solid foundation for continuous improvement of effective practices.

1. Effective Leadership of Systems for Desired Results—the leader’s decisions and practices to support the vision of student learning
2. Policies and Practices to Sustain Improvement—the school or district’s development and implementation of policies and practices that support improvement efforts
3. Resources and Support Systems to Sustain Improvement—the allocation and deployment of human, technology, and material resources to support improvement efforts
4. Quality Teachers for Desired Results—the recruitment, placement, and professional development of teachers to achieve the school or district’s vision of student learning
5. Quality Information for Desired Results—the collection, management, and use of information to support the school or district’s vision of student learning

Core Tasks and Effective Practices of Improving Schools or Districts

Schools and districts engage in specific tasks and practices that focus and sustain their efforts to improve teaching and learning. Research indicates that a school or district seeking to improve student learning needs to focus on three core tasks:

¹ Miles, M., & Huberman, M. (1994). *Qualitative data analysis : An expanded sourcebook*. Newbury Park, CA: Sage.
Corbin, J., & Strauss, A. (1990). *Basics of qualitative research: Grounded theory procedures and techniques*. Newbury Park, CA: Sage.
Dey, I. (1993). *Qualitative data analysis*. London: Routledge.

1. Ensure Desired Results—by expecting desired results and monitoring performance
2. Improve Teaching and Learning—by supporting students in their learning and maximizing teachers' effectiveness
3. Foster a Culture for Improvement—by developing a learning community and leading for improvement

There are certain effective practices associated with each of the three tasks that, collectively, make them powerful systemic levers for impacting student learning through the process of continuous improvement.

Research Findings

A more detailed description of the Organizational Conditions and Core Tasks can be found in the following sections.

Summary of Organizational Conditions

Five Organizational Conditions

for improving school systems provide a solid foundation for continuous improvement of effective practices:

- 1 Quality teachers**—the recruitment, placement, and professional development of teachers to achieve the school’s or district’s vision of student learning
- 2 Effective Leadership**—the leader’s decisions and actions to support the vision of student learning
- 3 Quality Information**—the collection, management, and use of information enable the school or school district to make informed decisions, take specific actions, and assess the results of improvement efforts that support the school’s or district’s vision of student learning
- 4 Policies and Practices that Foster and Sustain Improvement**—the school’s or district’s development and implementation of policies and practices that support improvement efforts
- 5 Resources and Support Systems to Sustain Improvement**—the allocation and deployment of human, technology, and material resources to target areas for improvement

The Organizational Conditions:

1 **Quality Teachers for Desired Results** - the recruitment, placement, and professional development of teachers to achieve the school's or district's vision of student learning

Research suggests effective teachers continually seek ways to improve student learning. What a student is able to learn is effected by the teacher, for it is in the relationship between the teacher and the student that learning begins. Thus, teacher quality and effectiveness are paramount considerations for school success. Reviewing recent research on teacher quality, Mayer and colleagues (Mayer, 2001) identify four characteristics of effective teachers. Such teachers:

- have high academic skills,
- are required to teach in the field in which they receive their training,
- have more than a few years of experience, and
- participate in high-quality induction and professional development programs.

Marzano adds that teachers who have skills in applying appropriate instructional strategies (Marzano, 2001) and those who use effective classroom management techniques (Marzano, 2003) positively impact student achievement.

2 **Effective Leadership** - the leader's decisions and actions to support the vision of student learning

A preponderance of education research suggests that high performing districts and schools are characterized by effective leadership, among other factors. Without such leadership, the district or school is little more than a set of independent actors, each pursuing individual goals without a shared understanding about what is important to be achieved across the system. Leadership that is characterized by systematic and collaborative decision-making appears to hold the most promise for improving student achievement and school/district effectiveness (Fullan, 1991; Fullan and Hargreaves, 1992; Sarason and Lorentz, 1998; Schmoker, 1999; van der Bogert, 1998). In addition, individuals better support change efforts and feel more involved when working collaboratively (Fullan, 1991; Whitford, 2000). The efforts of a single, strong leader may move a school/district forward, but shared leadership and collaboration are essential if change is to be effectively implemented and sustained (Corallo and McDonald, 2002; Rosenholts, 1989).

The findings from a study of the relationship between leadership and student achievement confirm the important role effective leadership has on continuous improvement (Waters, Marzano, and McNulty, 2003). The study focused at the school level; however its findings translate and have relevance at the district level as well. The study found that increases in leadership ability by one principal in School B translated into mean student achievement at school B that was 10 percentile points higher than school A. However, the study also points out that leadership means more than simply knowing what to do—it's knowing when, how, and why to do it. Effective leaders understand how to balance pushing for change while, at the same time, protecting aspects of culture, values, and norms worth preserving. They know how to gauge the magnitude of change they are calling for and how to tailor their leadership strategies accordingly. Finally, they understand and value the people in the organization. They know when, how, and why to create learning

environments that support people, connect them with one another, and provide the knowledge, skills, and resources they need to succeed.

3 Quality Information - the collection, management, and use of information to enable the school or district to make informed decisions, take specific actions, and assess the results of improvement efforts that support the school's or district's vision of student learning

Regular and systematic data collection and analysis as well as the ongoing assessment of school improvement efforts are significant factors in the success of school improvement efforts (Cicchinelli and Barely 1999; Herman and Winters, 1992). Continuous monitoring is critical because it provides district and school staff with information about the progress of implementation, challenges to the school improvement efforts underway, and outcomes (Beswick, 1990). Most experts also agree that multiple measures of student achievement and organizational performance are best (Bernhardt, 1998; Garcia, 2000; Ligon, 1996). That is, many sources and kinds of data will yield a more comprehensive picture of school performance.

The quality of the transformation of data into evidence (Chapter 3) depends on the uniformity of data collection processes and the ability of staff to analyze data. In order to ensure the relevance of information, leaders must use data consistently as the basis of decision-making and analyze it with an eye towards achieving the district's vision. However, to be useful to teachers and school and district leaders, information such as assessment data must provide more than just a destination. Student performance results must also provide guidance that informs educators that they are moving in the right direction, while providing feedback for mid-course adjustments. Moreover, data feedback systems must rely on multiple sources of data collected and analyzed at regular intervals (Supovitz and Klein, 2003).

4 Policies and Practices that Foster and Sustain Improvement - the school's or district's development and implementation of policies and practices that support improvement efforts

Research suggests that school and district policies and procedures that are focused on nurturing students' intellectual development and are aligned for that purpose play an important role in school and district effectiveness (CCSSO, 2005). Many times, improvement efforts are abandoned because they conflict with a policy or practice. Anticipating the roadblocks to improvement and addressing issues of policy or practice in advance helps to facilitate the work required in school and district improvement.

A digest of educational research conducted by the Educational Research Information Center (ERIC, 2001) underscores the importance of supportive policies and practices. The digest identifies educational policies and procedures whose effectiveness in closing the achievement gap has been demonstrated. These policies include: the development of rigorous standards; active promotion of the expectation that all students can succeed; active encouragement of parent's high expectations for their children's achievement and involvement in their children's schooling; and recruitment and retention of experienced, well-qualified teachers.

The importance of effective policies and practices extends to the classroom level. A review of more than 100 case studies on classroom management (Marzano, 2003) concludes that school-wide policies and practices are very important in setting the tone for individual classroom management.

5 Resources and Support Systems to Sustain Improvement - the allocation and deployment of human, technology, and material resources to support improvement efforts

An essential role for the district during the improvement process is to provide support to its schools and staff through assistance and resources. Assistance, such as helping school improvement teams analyze data, is vital to sustain improvement efforts. The district must also allocate and deploy the necessary human, technical, and material resources in order to contribute to the ability of the system to live up to its promises. These support systems may include maintenance of active school partnerships (ERIC, 2001) that include helping schools link families with local social services; providing students with mentors, tutors, and role models; and fund raising to increase the financial resources available to local schools.

In addition to providing resources and support to schools, the district must encourage and support the use of scientifically-based instructional strategies and materials. Instructional strategies and materials for which there is rigorous evidence of effectiveness are more likely to enhance student learning in diverse schools and districts than are those for which there is little evidence. For example, student achievement grew in six impoverished and rural school districts in Ohio when teachers implemented research-based materials and strategies (O'Kelly, 2003).

Research References - Organizational Conditions

Organizational Condition 1: Quality Teachers

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Organizational Condition 2: Effective Leadership

Sources of Data:

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Organizational Condition 3: Quality Information

Sources of Data:

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Organizational Condition 4: Policies and Procedures that Foster and Sustain Improvement

Sources of Data:

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District Audit Tool, December, 2005
- Educational Research Information Center (ERIC), 2001
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Organizational Condition 5: Resources and Support Systems to Sustain Improvement

Sources of Data:

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Summary of Core Tasks and Effective Practices

<p style="text-align: center;">The Three Core Tasks</p> <p style="text-align: center;">and their Effective Practices of Schools and School Districts to Improve Student Learning</p>	<p style="text-align: center;">1</p> <p style="text-align: center;">Ensure Desired Results</p> <p>Expecting Results:</p> <ul style="list-style-type: none"> ▪ Implement a vision for student learning through goals and strategies; ▪ maintain high expectations for student achievement; ▪ maintain a relentless focus on improving student learning which would permeate all levels of the school or district; ▪ be compelled by a common belief that, collectively, staff and other stakeholders can impact the desired results of the school or district. <p>Monitoring Performance:</p> <ul style="list-style-type: none"> ▪ use data to inform decision-making about teaching and learning; ▪ use a comprehensive assessment system that provides feedback for improvement in instructional practices and student performance; ▪ use classroom-based assessments to provide robust measures of students' academic, cognitive, and metacognitive skills; ▪ identify performance targets, indicators, and measures for comparing and improving a school's or district's effectiveness; ▪ take appropriate and timely action to improve areas of identified needs. 	<p style="text-align: center;">2</p> <p style="text-align: center;">Improve Teaching And Learning</p> <p>Supporting Student Learning:</p> <ul style="list-style-type: none"> ▪ maintain school- or district-wide expectations for student learning that reflect academic, cognitive and metacognitive skills; ▪ deliver on these expectations for student learning through a curriculum that is coherent and rigorous; ▪ align an assessment system with curriculum that is enacted in the classroom through instruction; ▪ support the equitable opportunity of students to learn through individualization and differentiation; ▪ provide student support services and special programs to optimize individual student learning; ▪ support a student learning community that includes student involvement beyond the classroom and that offers a safe environment; ▪ involve families and the community in supporting children as learners. <p>Maximizing Teaching Effectiveness:</p> <ul style="list-style-type: none"> ▪ use instructional strategies that provide students with focus, feedback and sufficient opportunities to master skills; ▪ use appropriate strategies to assess the performance of students' academic, cognitive and metacognitive skills; ▪ adapt instruction to meet individual needs and engage learners; ▪ maximize the use of time for instruction; ▪ create a classroom environments conducive to learning; and ▪ optimize technology and multimedia as learning tools. 	<p style="text-align: center;">3</p> <p style="text-align: center;">Foster a Culture For Improvement</p> <p>Developing a Professional Learning Community:</p> <ul style="list-style-type: none"> ▪ share a common vision and goals that have student learning as the focus; ▪ improve individual and collective performance by coming together regularly for learning, decision-making, problem solving, and celebration; ▪ enhance continuously individual effectiveness through inquiry, practice, and peer reflection; and ▪ support a culture of collegiality, collaboration, respect and trust. <p>Leading for Improvement:</p> <ul style="list-style-type: none"> ▪ share leadership for the improvement of teaching and learning throughout the district; ▪ articulate a compelling need for improvement and provide meaningful ways for the professional learning community to focus on its performance; ▪ engage in practices that support the ongoing improvement of teaching and learning.
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The Three Core Tasks:

1 Ensure Desired Results

Simply stated, schools and districts ensure desired results for student learning by expecting certain results and then monitoring performance in achieving them. Schools or districts determine what they desire as performance results based on their expectations for student learning. For a school or district to expect and ensure certain results, it must:

1. maintain high expectations for student achievement
2. implement its vision for student learning through goals and strategies
3. maintain a relentless focus on improving student learning which would permeate all levels of the district
4. be compelled by a common belief that, collectively, staff and other stakeholders can impact the desired results of the district

In addition, for a school or district to effectively monitor performance in order to produce the results it expects, it will:

5. use data to inform decision-making about teaching and learning
6. use a comprehensive assessment system to provide feedback for improvement in instructional practices and student performance
7. use classroom-based assessments to provide robust measures of students' academic, cognitive, and metacognitive skills
8. identify performance targets, indicators, and measures for comparing and improving effectiveness
9. take appropriate and timely action to improve areas of identified needs

2 Improve Teaching and Learning

The ultimate goal of the school improvement process is to improve teaching and learning. Schools and districts that support students in their learning:

10. maintain system-wide expectations for student learning that reflect academic, cognitive, and metacognitive skills
11. deliver on the expectations for student learning through a curriculum that is coherent and rigorous
12. align an assessment system with curriculum which is enacted in the classroom through instruction
13. support the equitable opportunity of students to learn through individualization and differentiation
14. provide student support services and special programs to optimize individual student learning
15. support a student learning community that includes student involvement beyond the classroom and that offers a safe environment
16. involve families and the community in supporting children as learners

Equally important as supporting students is the system's support for teachers and the practices that maximize teachers' effectiveness. These practices help teachers to:

17. use instructional strategies that provide students with focus, feedback, and sufficient opportunities to master skills
18. use appropriate strategies to assess the performance of students' academic, cognitive, and metacognitive skills
19. adapt instruction to meet individual needs and engage learners
20. maximize the use of time for instruction
21. create a classroom environment conducive to learning
22. optimize technology and multimedia as learning tools

3 Foster a Culture of Improvement

In addition to ensuring desired results and improving teaching and learning, research indicates that schools and districts must cultivate an environment which has improvement embedded in its daily practices. The professional learning community will influence the impact of any improvement initiative. In order to foster a culture of improvement, learning community members:

23. share a common vision and goals that have student learning as the focus
24. improve individual and collective performance by coming together regularly for learning, decision-making, problem solving, and celebration
25. enhance continuously individual effectiveness through inquiry, practice, and peer reflection
26. support a culture of collegiality, collaboration, respect, and trust

Leaders of a professional learning community have a unique responsibility to:

27. share leadership for the improvement of teaching and learning throughout the school and district
28. articulate a compelling need for improvement and provide meaningful ways for the professional learning community to focus on its performance
29. engage in practices that support the ongoing improvement of teaching and learning

These twenty-nine effective practices all contribute to the three core tasks of a district that is focused on improving teaching and learning.

Research References - Core Tasks

Core Task 1: Ensure desired results by expecting desired results and monitoring performance

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Core Task 2: Improve teaching and learning by supporting student learning and maximizing teaching effectiveness

Sources of Data:

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Core Task 3: Foster a culture for improvement by developing a professional learning community and leading for improvement

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