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*MAKING
MIDDLE GRADES
WORK*

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Preparing Middle Grades Students for High School Success

*A Comparative Study of Most- and
Least-Improved Middle Grades Schools*

Gene Bottoms and Allison Timberlake

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A Note to Readers

How can our nation's public schools meet the nation's need to graduate more students from high school? How can we raise achievement for low-income students and close the gaps between students from traditionally better-educated families and those from less-educated backgrounds?

Better teaching and learning in the middle grades is one important answer. The Southern Regional Education Board's *Making Middle Grades Work* (MMGW) school improvement program can help improve teaching and learning when it's put to good use by educators, this report clearly shows. When schools implement MMGW's Key Practices, student achievement and engagement in learning can improve substantially.

This report defines many specific strategies that can help improve student learning. SREB encourages school leaders, teachers and policy-makers to use the practices outlined in this report to help improve public schools for *all* groups of students.

Taking action is critical. Students themselves tell us in a *High Schools That Work* survey that they aren't well-prepared for high school when they leave the middle grades. About half of beginning ninth-graders report they do not have the writing skills they need for high school, and even higher ratios say they are underprepared in math and science. Is it any wonder that failure rates are so high in the ninth grade, and that so many students drop out of high school?

Action Needed Now

Improving education in the middle grades requires several key steps. First, state leaders and local policy-makers can help by creating essential high school readiness standards.

It is essential to define the skills eighth-graders need in reading, writing, mathematics, science and other subjects to be prepared for high school work. In many states, academic standards are set below grade level, according to comparisons using the National Assessment of Educational Progress (NAEP). States need to raise standards to encourage ambitious teaching and learning. These standards could be set by school districts, through statewide legislation or through policies set by the state board of education.

In addition, it's up to the schools, parents, students and the community to help more students succeed. This report outlines many strategies that schools can begin to implement immediately to improve student learning and engagement.

Some of *MMGW*'s areas of emphasis in school improvement include:

- teaching literacy and numeracy skills in every academic subject, helping students use what they're learning to solve authentic problems and connect their learning to everyday life and future careers.
- rigorous courses for all students. Even students whose skills are behind many of their peers tend to succeed when they're given challenging work — and the additional help and support to handle it.
- outstanding school leaders — including principals, counselors and academic teacher-coaches — who understand how to improve student achievement and the learning environment and can help students plan their paths to success in high school and beyond.

Schools that use many of these practices — specifically recommended by the *MMGW* school improvement model — have shown the most improvement in student achievement among the schools involved in the *MMGW* network. These schools have begun to close achievement gaps between students of various backgrounds, provide students with greater support, challenge more students to take rigorous courses and succeed in them, and help students plan more effectively and seriously for a careers and future education.

Several schools that have shown major student achievement gains on the SREB/*MMGW* Middle Grades Assessment — and on state test scores — are profiled in this report. Take a look at Centreville Middle School in Maryland, for instance, which now enrolls all students in more rigorous courses taught to high school readiness standards. The results were major advances in test scores and a more welcoming environment for everyone to learn.

Building a Better Future

Educators who want to help more students from all socioeconomic and ethnic groups achieve at or above grade level need to provide better teaching and support for students to move in that direction. Low academic standards for students will not work anymore. It's time to accelerate learning for all students. If middle grades students are better prepared academically to begin high school, they are less likely to fail ninth-grade courses and drop out.

Schools need to be clearer than ever about the academic standards our students are expected to meet. Higher expectations require new partnerships with students' parents and guardians to help them understand why standards are higher and how they will pay off for their children.

Pushing all students to take the same higher-level courses isn't easy. Parents may not understand why you're doing it. Students may get frustrated. Even teachers may be skeptics at first. Schools need to communicate that we're building a stronger foundation upon which all students should stand — not lowering a ceiling for all. We must all encourage students to achieve at higher and higher levels.

Improving middle grades education — and then helping more students graduate from high school and proceed to some type of education afterwards — will help our country become more prosperous and competitive, and more able to address poverty and the social ills that still afflict many Americans.

The information in this report can empower local- and state-level education leaders, teachers, state legislators, governors and others to improve schools. The work outlined in this report gives you an important set of tools. Use it to help the people of your state, your community and your local school improve learning for all students.

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Chapter 1: Introduction

In an era of rising college and workplace requirements, completing a quality high school education is more important than ever before. Students cannot be expected to exceed in rigorous high school studies if they do not receive adequate preparation before entering the ninth grade. Middle grades schools are responsible for preparing students for an accelerated high school curriculum that opens, rather than closes, doors to further education and careers.

Many students entering the ninth grade are not prepared for the more demanding course work required of high school students — and they know it. On a 2006 survey of more than 11,000 ninth-graders at *High Schools That Work (HSTW)* schools, 39 percent of students said they were not prepared with the necessary reading skills for college-preparatory high school courses. Additionally, 49 percent reported being unprepared in writing, 57 percent reported being unprepared in mathematics and 60 percent reported being unprepared in science.¹

Many states have yet to assist their middle grades schools in aligning curriculum to high school readiness standards, as evidenced by the overwhelming number of students entering high school unprepared for challenging studies and failing the ninth grade. The best middle grades students continue to excel in high school, while students who enter high school with below-grade-level skills — often low-income and minority students — continue to fall further and further behind. Most students who fall behind their peers during the transition to the ninth grade never recover and are much more likely to drop out of school.²

Nationally, 25 percent of students are failing to graduate high school on time.³ The median graduation rate in the 16 Southern Regional Education Board (SREB) states⁴ is 72 percent. High schools across the country are requiring students to complete more rigorous course work and more credits to graduate.

¹ Timberlake, A. Unpublished analysis of 2006 *HSTW* Ninth-Grade Student Survey results. SREB, 2006.

² Jerald, C.D. *Identifying Potential Dropouts: Key Lessons for Building an Early Warning Data System*. Achieve Inc., 2006.

³ Sable, J. and A. Garofano. Public Elementary and Secondary School Student Enrollment, *High School Completions, and Staff From the Common Core of Data: School Year 2005–06* (NCES 2007-352). National Center for Education Statistics, 2007 — <http://nces.ed.gov/pubsearch/pubsinfo.asp?pubid=2007352>.

⁴ The sixteen SREB member states are: Alabama, Arkansas, Delaware, Florida, Georgia, Kentucky, Louisiana, Maryland, Mississippi, North Carolina, Oklahoma, South Carolina, Tennessee, Texas, Virginia and West Virginia.

The 16 SREB states have some of the most stringent course requirements for graduation in the nation, and most require students to pass at least one high-stakes exam. Currently, all 16 SREB states require students to take at least three mathematics courses for graduation, and several states require four.⁵ Nine SREB states have adopted policies that soon will require students to complete Algebra I, geometry and Algebra II for a standard diploma.⁶

The *No Child Left Behind Act (NCLB)* holds states and schools accountable for getting all groups of students prepared to meet high school readiness standards. Yet less than one-third of students achieved at the Proficient level — the level indicating students are prepared for challenging high school courses — in reading, mathematics or science on the 2007 National Assessment of Educational Progress (NAEP).⁷ In SREB states, the median percentage of students achieving at or above the Proficient level in reading and mathematics was 26 percent.

Each state is responsible for setting proficiency standards, and too many states are setting standards below grade level. Not only do proficiency standards vary greatly by state, but many states also do not have high school readiness standards, nor do they require students to meet high enough standards before entering high school. A National Center for Education Statistics report comparing state proficiency standards to the NAEP standards found large discrepancies.⁸ Among the 34 states analyzed, 21 states' eighth-grade reading standards aligned with the NAEP Basic level, while 13 states' standards fell below the Basic level. Among the 36 states analyzed in eighth-grade mathematics, three states' standards were above the NAEP Proficient level, 23 states' standards were within the Basic level range, two were at the Basic level cut score, and eight were below the Basic level.

This lack of alignment between eighth-grade standards and high school readiness has resulted in high student failure rates in the ninth grade. The ninth-grade failure rate is 12 percent nationally⁹ and 14 percent in SREB states, ranging

⁵ Kaye, R.D., J. Lord and G. Bottoms. *Getting Students Ready for College and Careers*. Southern Regional Education Board, 2006.

⁶ "SREB Goals for Education: *Challenge to Lead* — 2008 State Reports: What progress has your state made?" Southern Regional Education Board, 2008 — http://www.sreb.org/Goals/State_Goals_Report_2008.asp.

⁷ National Center for Education Statistics (NCES). *National Assessment of Educational Progress (NAEP). 2007 8th Grade Reading and Mathematics Assessments*.

⁸ National Center for Education Statistics. *Mapping 2005 State Proficiency Standards Onto the NAEP Scales* (NCES 2007-482). U.S. Department of Education, 2007.

⁹ Statistics are based on the ninth-grade bulge calculation using data from the NCES Common Core of Data. The ninth-grade bulge is calculated by dividing the current ninth-grade enrollment by the previous year's eighth-grade enrollment. Percentages in excess of 100 represent repeaters, or the failure rate. Calculations presented in this report use 2005-2006 ninth-grade enrollment and 2004-2005 eighth-grade enrollment.

from a high of 20 percent to a low of 4 percent. Because students who fail the ninth grade are at great risk of dropping out of high school, states must address students' high school readiness as they work to improve high school graduation rates.

To address the large number of ninth-grade students who are unprepared for challenging high school studies, SREB conducted a two-year study in the late 1990s to review research on the middle grades and high school preparation and find solutions that could help schools improve student learning. This study resulted in *Making Middle Grades Work (MMGW)*, an effort-based school improvement initiative founded on the conviction that most students can master rigorous academic studies if schools create an environment that motivates them to make the effort to succeed.

The *MMGW* model is a framework of Goals, Key Practices and Key Conditions that, when implemented, result in more students leaving the eighth grade well-prepared for challenging high school studies. The framework offers schools a set of Key Practices that includes aligning core academic courses with high school readiness standards, engaging students in authentic assignments that include the use of technology, and providing extra help and support to students who are not meeting grade-level standards. **SREB has found those middle grades schools that have implemented the *MMGW* design more deeply to have more students meeting high school readiness standards in reading, mathematics and science.**

The intent of this study is to identify school and classroom practices associated with improved student achievement by comparing schools in the *MMGW* network that have made the most improvement in student achievement over a two-year period with schools that made the least improvement. This report explores the following questions:

- Have the most-improved middle grades schools made greater achievement gains across *all groups of students* than least-improved schools? Have these schools widened or narrowed the achievement gap between groups of students?
- What practices in the most-improved schools may account for improved academic achievement? Do *all* student groups in the most-improved schools experience effective school and classroom practices to the same degree?

Importance of School Improvement in the Middle Grades

An ACT Inc. policy report revealed that students who take a rigorous academic curriculum beginning in the middle grades are better prepared for college than students who do not take such a curriculum.¹⁰ The report found that “a challenging curriculum helps students stay focused throughout high school, builds their academic skills, helps them develop effective study habits, and keeps them engaged in school-related activities.”

A National Middle School Association report noted that successful schools adopt several significant school improvement strategies that work together to increase student achievement, rather than selectively implementing one or two strategies.¹¹ It identified six characteristics of successful middle grades schools: a relevant and challenging curriculum, multiple learning and teaching approaches, effective assessment programs, an organizational structure that promotes meaningful relationships, schoolwide policies that foster wellness, and guidance and support services.

Study Design

Ninety-two *MMGW* schools participated in both the 2004 and 2006 Middle Grades Assessment, a NAEP-referenced assessment of reading, mathematics and science accompanied by student and teacher surveys. For this study, SREB identified the 15 schools that made the most gains in student achievement and the 15 schools that saw the largest drops in student achievement on the Assessment from 2004 to 2006. To be considered for this study, schools had to:

- assess a minimum of 40 eighth-grade students on both the 2004 and 2006 Middle Grades Assessment.
- have a similar percentage of racial/ethnic minorities and students from low-socioeconomic families (identified by the mother’s education level) participate in the in 2004 and 2006 Assessments. For the purposes of this study, schools with a difference of 15 or more percentage points between years in either value were not eligible.
- either improve student achievement in all three subject areas from 2004 to 2006 (most-improved schools), or make no improvement in student achievement in any subject area (least-improved schools).

¹⁰ Wimberly, G.L. and R. J. Noeth. *College Readiness Begins in Middle School*. ACT Inc., 2005.

¹¹ *Success in the Middle: A Policymaker’s Guide to Achieving Quality Middle Level Education*. National Middle School Association, 2006.

Summary of Findings

- *All groups of students* in the most-improved schools had significantly greater gains in achievement than students in the least-improved schools.
- The most-improved schools have made more progress than the least-improved schools in:
 - closing the achievement gap between white and black students.
 - creating a culture of high expectations and providing students with the support they need to be successful.
 - providing students with a rigorous curriculum that challenges them and prepares them for college-preparatory high school courses.
 - using research-based instructional strategies to engage students in challenging assignments that motivate them to make the effort to meet grade-level standards in reading, mathematics and science.
 - providing quality guidance to help students understand high school academic expectations and acquire the study skills and habits of success necessary to succeed in high school, college and careers.
 - defining a school mission related to increased achievement for all students and creating a shared vision of continuous improvement among school leadership and faculty.

Neither set of schools exhibited a significant difference in demographic composition between 2004 and 2006. (See Table 1.) The least-improved schools had 42 percent minority students in 2004 and 44 percent in 2006. These schools had 55 percent of students from low-socioeconomic backgrounds in 2004 and 56 percent in 2006. The most-improved schools had 36 percent minority students in both 2004 and 2006 and had 53 percent of students from low-socioeconomic backgrounds in 2004 and 52 in 2006.

Table 1
Demographic Comparison

	LEAST-IMPROVED SCHOOLS		MOST-IMPROVED SCHOOLS	
	2004	2006	2004	2006
Race/Ethnicity				
White	58%	57%	64%	65%
Black	30	33	20	22
Other	12	11	16	14
Socioeconomic Status				
High	45	44	47	48
Low	55	56	53	52

Source: 2004 and 2006 Middle Grades Assessments, SREB

Note: A high socioeconomic status is defined as a student's mother having at least some education beyond high school. A low level indicates no education beyond high school.

The 15 most-improved schools had statistically significant gains in achievement, and 13 of the 15 least-improved schools had statistically significant declines in achievement. (See Table 2.) The most-improved schools experienced an increase in student achievement of 19 points in reading, 11 points in mathematics and 18 points in science between 2004 and 2006. The least-improved schools experienced a decrease in student achievement of nine points in reading, eight points in mathematics and 10 points in science between 2004 and 2006.

The performance goals for the Middle Grades Assessment represent grade-level work and high school readiness. Students who meet these goals are likely ready for challenging academic studies in grade nine. The goals are set between the Basic and Proficient cut scores for the Assessment: 160 in reading and mathematics and 161 in science.

Table 2
Changes in Mean Test Scores

	LEAST-IMPROVED SCHOOLS			MOST-IMPROVED SCHOOLS		
	2004	2006	CHANGE	2004	2006	CHANGE
Reading	154	145	-9**	148	167	+19**
Mathematics	155	147	-8**	150	161	+11**
Science	148	138	-10**	140	158	+18**

Source: 2004 and 2006 Middle Grades Assessments, SREB

Notes: ** $p < .01$ using a t test of significance

Achievement scores for all three subject tests on the Middle Grades Assessment range from 0 to 300. Scores are not, however, equivalent across subject areas.

A similar pattern was found in the percentage of students meeting the *MMGW* performance goals. The most-improved schools experienced an increase of 29 percentage points of students meeting the goals in reading, 14 points in mathematics and 16 points in science. The least-improved schools had a decrease of 10 percentage points in reading, nine points in mathematics and eight points in science. (See Table 3.)

Table 3
Changes in Percentages of Students Meeting Performance Goals

	LEAST-IMPROVED SCHOOLS			MOST-IMPROVED SCHOOLS		
	2004	2006	CHANGE	2004	2006	CHANGE
Reading	44%	34%	-10**	38%	67%	+29**
Mathematics	48	39	-9**	43	57	+14**
Science	38	30	-8**	33	49	+16**

Source: 2004 and 2006 Middle Grades Assessments, SREB

Note: ** $p < .01$ using a Chi-square test of significance

While middle grades schools nationally are making minimal or no gains on the NAEP, the most-improved schools in the *MMGW* network are making substantial gains in achievement on a NAEP-like assessment.¹² Between 2005 and 2007, eighth-graders nationally made a one-point gain in reading achievement on the NAEP reading assessment and a two-point gain on the mathematics assessment. During the five-year period in which the science assessment was last administered (2000 and 2005), a one-point loss occurred in science.¹³

Chapter 2

*Have the most-improved schools in the MMGW network made greater achievement gains across **all** groups of students than least-improved schools? Have these schools widened or narrowed the achievement gap between groups of students?*

Under recent policies and legislation such as *NCLB*, schools are now responsible for raising the achievement of all students while also raising the achievement of under-performing student groups at faster rates. Yet, according to the NAEP, there has been no significant change in the reading or mathematics achievement gap among eighth-grade students from 1992 through 2005.¹⁴

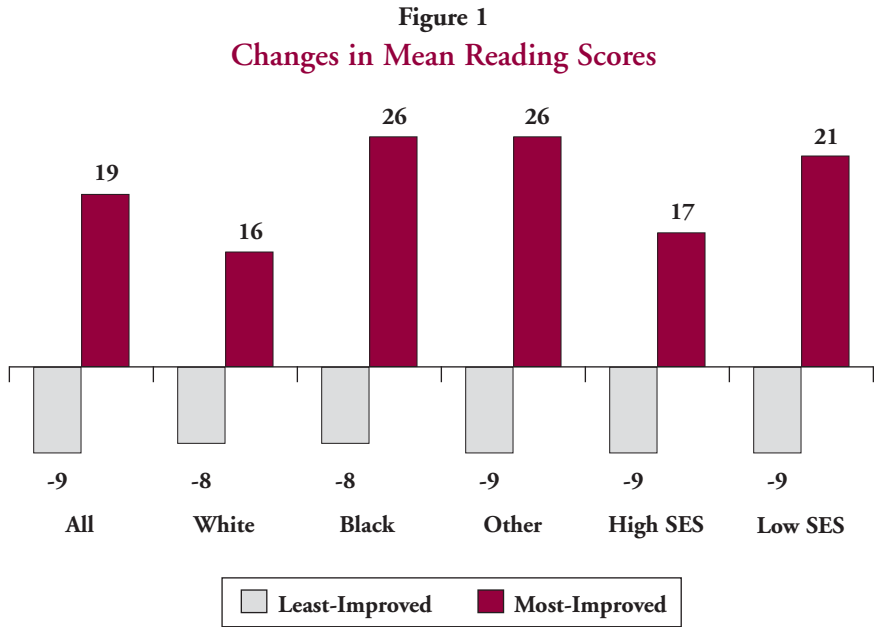
Results from the 2004 and 2006 Middle Grades Assessments reveal that *all* groups of students in the most-improved schools made gains in reading, mathematics and science. In the most-improved schools, white students experienced a 16-point gain in reading between 2004 and 2006, black students experienced a 26-point gain and other minority students experienced a 26-point gain. Students with high socioeconomic status (SES) experienced a 17-point gain and students with low socioeconomic status experienced a 21-point gain. These increases

¹² While the Middle Grades Assessment (MGA) is a NAEP-like assessment, it is not linked to the NAEP assessments or to its scoring scales. However, the MGA proficiency levels were developed to correspond to the NAEP levels.

¹³ U.S. Department of Education, Institute of Education Sciences, National Center for Education Statistics, National Assessment of Educational Progress (NAEP), 2005 and 2007 Reading Assessments, 2005 and 2007 Mathematics Assessments, 2000 and 2005 Science Assessments.

¹⁴ National Center for Education Statistics. *The Condition of Education 2006* (NCES 2006-071). U.S. Department of Education, 2006.

represent a gain in achievement of one and one-half to two and one-half years;¹⁵ however, all groups of students in the least-improved schools experienced a decrease of eight to nine points in reading achievement between 2004 and 2006. (See Figure 1.)

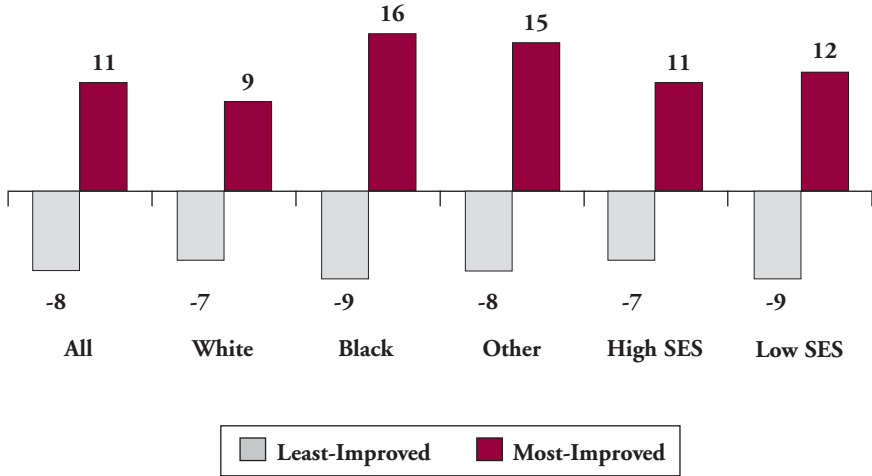


Source: 2004 and 2006 Middle Grades Assessments, SREB

A similar pattern was found in mathematics achievement. All groups of students in the most-improved schools made gains in mathematics achievement from 2004 to 2006. Black students experienced a 16-point gain, compared with a nine-point gain for white students. Students from low socioeconomic backgrounds experienced a gain similar to that of high-SES students. Over the same time frame, the mathematics achievement of all student groups in the least-improved schools decreased. White students experienced a seven-point decrease in mathematics achievement, while black students experienced a nine-point decrease. Low-SES students experienced a nine-point decrease and high-SES students experienced a seven-point decrease. (See Figure 2.)

¹⁵ Because a cohort of students has an average increase in mean NAEP reading, mathematics and science achievement scores of 80 points between grade four and grade 12, a difference of 10 points is roughly equivalent to one year's worth of learning.

Figure 2
Changes in Mean Mathematics Scores



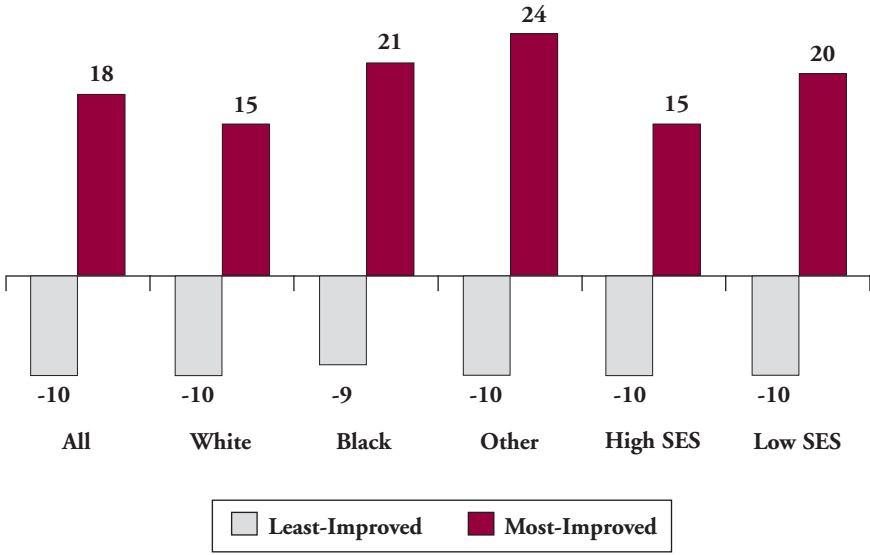
Source: 2004 and 2006 Middle Grades Assessments, SREB

In science, all groups of students in the most-improved schools experienced an increase of 15 points or more between 2004 and 2006. Furthermore, black students experienced a 21-point gain in achievement and other minority students experienced a 24-point gain, while white students experienced a 15-point gain. All groups of students in the least-improved schools experienced a decrease in achievement. (See Figure 3.)

An analysis of the achievement gap between white and black students at both groups of schools reveals that the most-improved schools made some progress in narrowing the achievement gap. Between 2004 and 2006, the reading achievement gap decreased by 10 points, the mathematics gap decreased by seven points and the science gap decreased by six points. (See Table 4.)

The most-improved schools not only have increased the achievement of all groups students; they also have further increased the achievement levels of black students at a faster rate, narrowing the achievement gap between white and black students. To identify possible causes of these achievement gains in the most-improved schools, SREB compared their school and classroom practices with those of the least-improved schools.

Figure 3
Changes in Mean Science Scores



Source: 2004 and 2006 Middle Grades Assessments, SREB

Table 4
**Changes in the Mean Test Score Achievement Gaps
 Between White and Black Students**

	LEAST-IMPROVED SCHOOLS			MOST-IMPROVED SCHOOLS		
	2004 GAP	2006 GAP	CHANGE	2004 GAP	2006 GAP	CHANGE
Reading	17**	17**	+0	17**	7**	-10
Mathematics	23**	25**	+2	23**	16**	-7
Science	25**	24**	-1	24**	18**	-6

Source: 2004 and 2006 Middle Grades Assessments, SREB

Note: ** $p < .01$ using a t test of significance

Chapter 3

What practices in the most-improved schools may account for the improved academic achievement? Do all student groups in the most-improved schools experience effective school and classroom practices to the same degree?

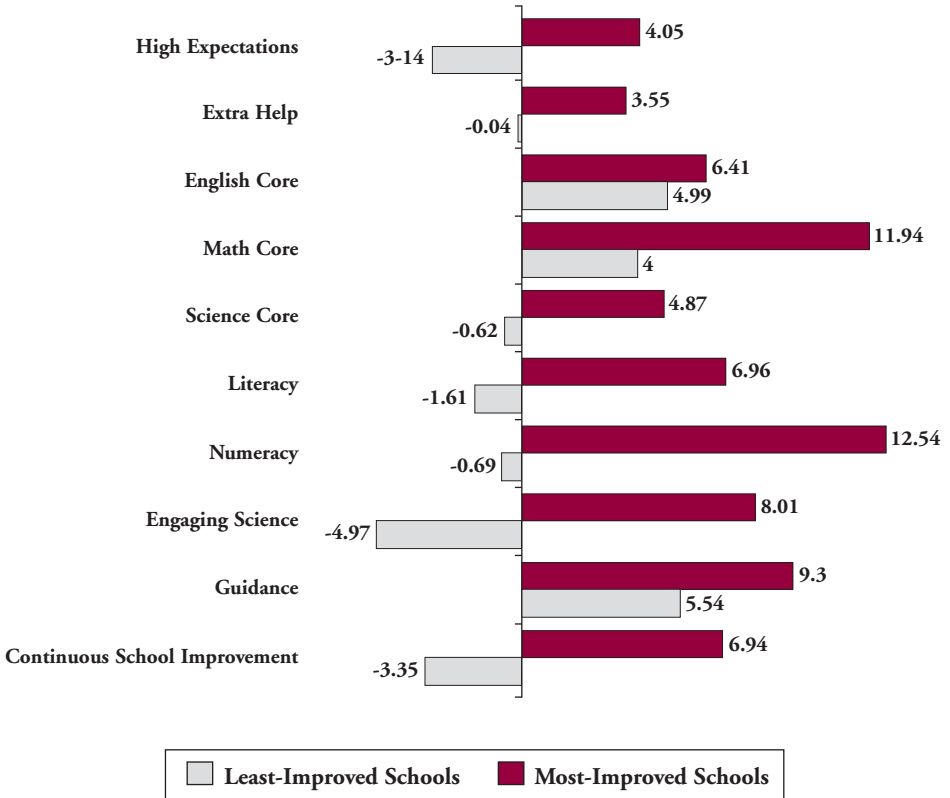
Making Middle Grades Work has developed 10 indices for studying school and classroom practices relevant to student achievement, which include an emphasis on:

- high expectations
- literacy across the curriculum
- numeracy across the curriculum
- engaging science experiences
- guidance
- extra help and support
- a rigorous English/language arts curriculum
- a rigorous mathematics curriculum
- a rigorous science curriculum
- leadership for continuous school improvement

Each index is comprised of a variety of indicators that assess the level of emphasis a school places on the index. Students who experience most of the indicators have experienced an *intensive* emphasis on that index. Students who experience fewer indicators have a *moderate* or *low* emphasis. The last index, leadership for continuous school improvement, is based on teacher responses on the teacher survey portion of the Assessment. The remaining nine indices represent student-reported experiences. The 10 indices have proven to be predictive of higher student achievement. (See Appendix B for a detailed description of each index.)

An analysis of these indices reveals that the most-improved schools made greater gains on all 10 indices than the least-improved schools, with significant gains achieved on several indices: high expectations, rigorous mathematics and science curricula, literacy across the curriculum, numeracy across the curriculum, engaging science experiences, guidance and leadership for continuous school improvement. (See Figure 4.)

Figure 4
Gains in the Percentages of Students and Teachers Experiencing an Intensive Emphasis on *MMGW* Indices: 2004 to 2006



Source: 2004 and 2006 Middle Grades Assessments, SREB

The most-improved schools have taken steps to provide more students with access to instructional strategies that engage students in reading and writing in all classes and in hands-on, real-world projects in mathematics and science. Furthermore, more students are given access to demanding mathematics and science courses in the most-improved schools. More students are held to higher classroom expectations and are given extra help and support to meet high school readiness standards. Finally, more teachers in the most-improved schools experience continuous school improvement led by a leadership team devoted to creating a demanding, relevant and supportive learning environment for all students.

Differences in school and classroom practices in the most- and least-improved schools can be organized around five themes: expecting more of students and supporting their efforts, teaching a rigorous curriculum, providing engaging and authentic assignments, emphasizing transitions, and having a clear mission and recognizing a common vision for school improvement.

Expecting More of Students and Supporting Their Efforts

Research continually shows that students are more engaged, work harder and achieve at higher levels when teachers show that they care about them and are willing to help them meet academic expectations. Deborah Stipek, author and professor of education, has written that: “Being a caring and supportive teacher means holding students accountable while providing the support they need to succeed.”¹⁶ There are a variety of classroom practices that convey a message of support to students: clearly stating the quality and level of work necessary to meet standards; clearly defining classroom rules; convincing students that, through smart effort, they can do well; helping students meet standards; and holding students responsible for redoing work until it meets standards.

The most-improved schools made progress in holding students to higher expectations, while the least-improved schools placed less emphasis on high expectations in 2006 than in 2004. More students in the most-improved schools worked hard to meet standards; completed assignments; and had teachers who set high standards for students, clearly indicated classroom rules and the amount and quality of work required to earn an A or B, and encouraged them to do well. (See Table 5.)

¹⁶ Stipek, D. “Relationships Matter.” *Educational Leadership*. Vol. 64, No. 1, 2006.

Table 5
Changes in the Percentages of Students
Experiencing High Expectations: 2004 to 2006

	LEAST-IMPROVED SCHOOLS	MOST-IMPROVED SCHOOLS
Percentage of students experiencing an intensive emphasis on high expectations	-3.14	+4.05**
INDICATORS:		
Most of my teachers often encourage me to do well in school.	+1.2	+7.55**
My teachers often set high standards and are willing to help me meet them.	-3.65	+4.07
My teachers often clearly indicate the amount and quality of work necessary to earn an A or B.	+3.18	+4.95*
I often revise my essays or other written work to improve their quality.	-7.13**	+0.28
I often work hard to meet high standards on assignments.	-0.56	+8.53**
I usually spend one hour or more on homework each day.	-8.63**	-2.15
School and classroom rules are often defined and clear.	-1.7	+4.65*
I never or rarely fail to complete or turn in assignments.	-3.96	+5.8**

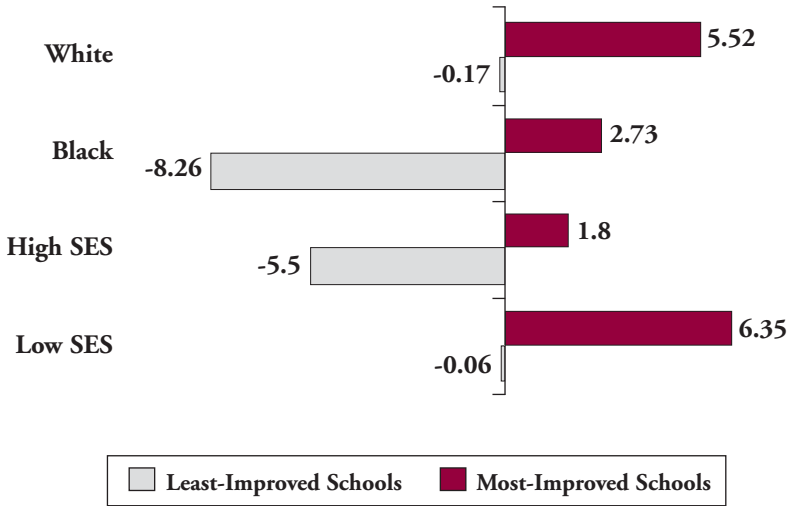
Source: 2004 and 2006 Middle Grades Assessments, SREB

Notes: * $p < .05$ using a Chi-square test of significance

** $p < .01$ using a Chi-square test of significance

Students in the most-improved schools were more likely to experience an environment of high expectations, indicating that the most-improved schools created a more demanding and encouraging culture that resulted in all groups of students making greater effort to meet standards. (See Figure 5 on next page.) White students and low-SES students reported the greatest increase in emphasis on high expectations, and black students and high-SES students also experienced increases. The least-improved schools saw a decrease in the percentage of students experiencing an intensive emphasis on high expectations across all student groups. This decline is most likely due to a lack of district support for teachers to learn and implement new strategies aimed at raising classroom expectations to grade-level standards, rather than preparing students to pass low-level exams.

Figure 5
Gains in the Percentages of Students Experiencing an Intensive Emphasis on High Expectations: 2004 to 2006



Source: 2004 and 2006 Middle Grades Assessments, SREB

When schools raise academic standards and expectations, they must also provide extra help to students to meet these standards. The most-improved *MMGW* schools increased the number of students receiving such help as they raised expectations. More students in the most-improved schools experienced an intensive emphasis on extra help than at least-improved schools. (See Table 6 on page 18.) Many students in the most-improved schools reported that their teachers cared about them and indicated that they could get extra help when needed, without difficulty. All groups of students in the most-improved schools have more access to extra help that is useful and motivates them to work harder.

Centreville Middle School: Committed to High Expectations for All Students

The principal of Maryland's Centreville Middle School attributes a large part of the school's improved student achievement to student scheduling. The school randomly assigned students to heterogeneous groups and enrolled everyone in courses taught to grade-level standards. The principal cites positive feedback from both parents and students on all students being taught to grade-level standards or above.

The principal cautions that random assignment must be accompanied with intensive staff training prior to and during implementation: "We had professional development on differentiated instruction, flexible groupings, and co-teaching, where the regular education and special education teachers work together. The professional development gave teachers the knowledge they needed to effectively teach students with different ability levels in a single classroom and to hold high expectations for all students."

The implementation process lasted for two years and required "a real learning curve" of teachers and administrators. The school's reading specialist supported teachers in their classrooms. Demonstration classes were available for teacher observations, and the principal co-taught with the teachers. The administration facilitated the effort by observing, encouraging and providing the logistical support and staff development teachers needed.

The effort paid off in increased test scores for all groups of students. "Some of our very top students were not really demonstrating what they could do when they were in a class of children just like them all day long," she says. "There were a variety of reasons for that, but particularly for the girls there was a real social wedge — a competitiveness that was not healthy. Parents have told me that some of their quiet students in the school have blossomed this year due to these random groups, because they don't feel they have to compete socially with the other girls."

According to the principal, concerns that random grouping might have an intimidating effect on lower-achieving students were proven unfounded. In fact, it instilled motivation and confidence in students. The principal explains that "these [lower-achieving] students stop superimposing the 'loser' label on themselves because they no longer see the same low-achieving kids in the same classes with the same low expectations. They see high-achieving kids in their classes being held to the same high expectations and they begin to think they can do this."

Centreville's student achievement increased in reading, mathematics and science between the 2004 and 2006 Middle Grades Assessments. The school also increased the percentage of students meeting the *MMGW* performance goals, representing readiness for high school, from 38 percent to 62 percent in reading, from 54 percent to 78 percent in mathematics and from 48 percent to 58 percent in science. The percentage of eighth-grade students scoring at or above proficient on the Maryland State Assessment rose from 73.5 percent in 2004 to 77 percent in 2006 in reading and from 59 percent in 2004 to 70 percent in 2006 in mathematics.¹⁷

¹⁷ Maryland Report Card, Maryland Department of Education.

Table 6
Changes in Percentages of Students Experiencing
Extra Help and Support: 2004 to 2006

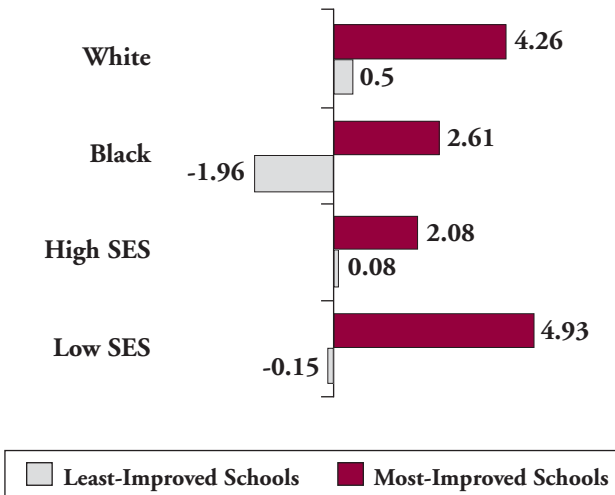
	LEAST-IMPROVED SCHOOLS	MOST-IMPROVED SCHOOLS
Percentage of students experiencing an intensive emphasis on extra help	-0.04	+3.55*
INDICATORS:		
My teachers often care about me enough that they will not let me get by without doing the work.	-2.49	+6.24**
My teachers are available before, during or after school to help me with my studies a few times a week .	-0.77	+6.68**
I am often able to get extra help from my teachers when needed without much difficulty.	-0.57	+5.81**

Source: 2004 and 2006 Middle Grades Assessments, SREB

Notes: * $p < .05$ using a Chi-square test of significance

** $p < .01$ using a Chi-square test of significance

Figure 6
Gains in Percentages of Students Experiencing an
Intensive Emphasis on Extra Help: 2004 to 2006



Source: 2004 and 2006 Middle Grades Assessments, SREB

Teaching a Rigorous Curriculum

SREB has emphasized that the mission of middle grades schools is to get all students ready to complete challenging high school studies. Current research has shown that a demanding curriculum has intellectual and practical benefits for students of all backgrounds. This research should be applied to the middle grades so that all groups of students can be prepared for challenging high school studies.

Making Middle Grades Work advocates an academic core that is aligned to what students must know, understand and be able to do to succeed in college-preparatory mathematics, science, English and social studies courses in high school. All middle grades students need an academic core curriculum that accelerates learning, challenges them and appeals to their interests. *MMGW* recommends that all students:

- complete Algebra I by the end of grade eight or are ready to take Algebra I in grade nine.
- do lab- and inquiry-based science projects built around fundamental questions in the physical, life and earth/space sciences.
- use reading and writing strategies for learning in *all* courses.
- complete a language arts curriculum in which they use language correctly and effectively; find, organize and communicate information; read the equivalent of 10 to 12 books of various types; write a short paper weekly; and write one or more major research papers.
- complete a social studies curriculum that allows them to learn about their heritage, their government, their world and economic principles through key issues of the past, present and future.

More students in the most-improved schools reported completing rigorous English/language, mathematics and science curricula in 2006 than in 2004, indicating that these schools are increasing their emphasis on rigorous academic studies. (See Table 7.) These gains between 2004 and 2006 were greater than the increases reported in the least-improved schools. Further, the most-improved schools had significantly more students complete Algebra I or a higher-level mathematics course and a rigorous language arts curriculum. The most-improved schools have engaged students in challenging science studies and encouraged them to develop analytical skills by interpreting results both orally and in writing. They had a greater increase in the percentage of students completing a science curriculum that stressed hands-on projects, choosing topics for investigation, designing experiments based on the topics, preparing written reports of lab results and presenting results to the class.

Table 7
Changes in Percentages of Students Experiencing
a Rigorous Curriculum: 2004 to 2006

	LEAST-IMPROVED SCHOOLS	MOST-IMPROVED SCHOOLS
ENGLISH/LANGUAGE ARTS		
Percentage of students experiencing an intensive emphasis on a rigorous English/language arts curriculum	+4.99	+6.41**
I complete short writing assignments of one to three pages for a grade in English at least monthly .	-3.91	+3.25
MATHEMATICS		
Percentage of students experiencing an intensive emphasis on a rigorous mathematics curriculum (Algebra I or higher)	+4.0	+11.94**
SCIENCE		
Percentage of students experiencing an intensive emphasis on a rigorous science curriculum	-0.62	+4.87**
I complete hands-on projects with living things in science.	+1.61	+3.06
I complete hands-on projects with simple machines in science.	-1.68	+6.28**
I use mathematics skills to solve problems in science monthly or weekly .	-0.62	+6.52**
I choose a topic for investigation at least once a semester .	-2.99	+10.11**
I design an experiment about that topic once a semester or once a year .	-2.19	+6.67**
I prepare a written report of the lab results once a semester or once a year .	-0.44	+4.84*
I talk to the class about the lab results once a semester or once a year .	-3.78	+2.47
I am taking integrated science this year.	-4.41	+11.49**

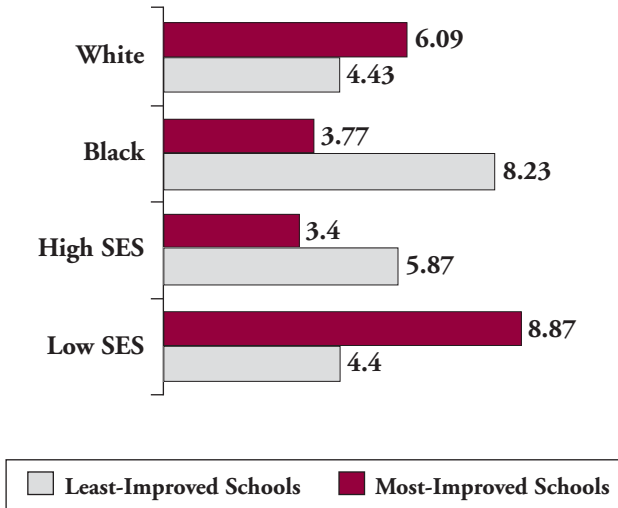
Source: 2004 and 2006 Middle Grades Assessments, SREB

Notes: * $p < .05$ using a Chi-square test of significance

** $p < .01$ using a Chi-square test of significance

The percentage of all groups of students taking a rigorous English/language arts curriculum in the most-improved schools increased by three to eight percentage points between 2004 and 2006. (See Figure 7.) The least-improved schools made progress in giving black students greater access to challenging English/language arts courses. Greater access to challenging curriculum can help raise achievement, as students are more likely to achieve at higher levels if they are enrolled in accelerated courses aligned to grade-level standards.

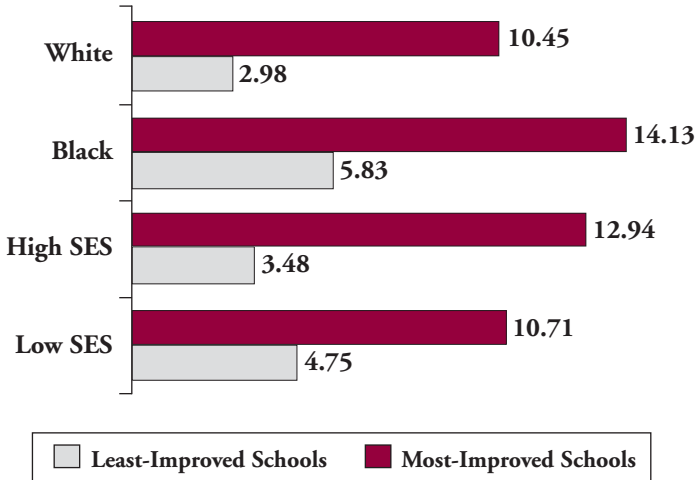
Figure 7
Gains in Percentages of Students Experiencing an Intensive Emphasis on a Rigorous English Core: 2004 to 2006



Source: 2004 and 2006 Middle Grades Assessments, SREB

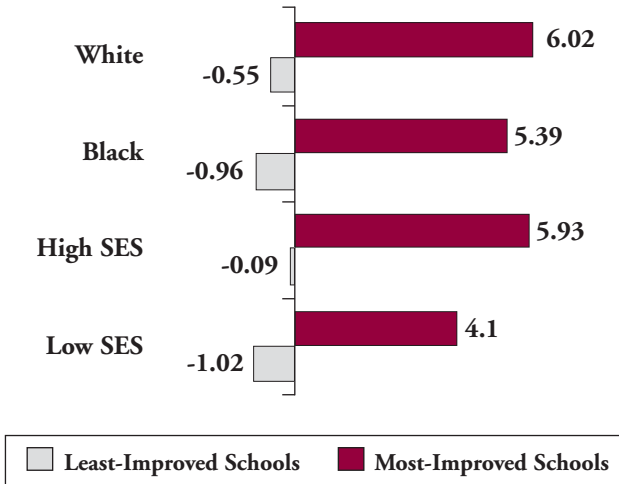
This pattern of providing all groups of students with greater access to a rigorous curriculum also was evident in mathematics and science curricula in the most-improved schools. These schools increased the percentage of students completing Algebra I or higher by at least 10 points across all groups, and by 14 points for black students — the largest increase among student groups. The most-improved schools increased the percentage of students experiencing an intensive emphasis on rigorous science for all groups of students, while the least-improved schools saw a decrease for all groups. (See Figures 8 and 9.)

Figure 8
Gains in Percentages of Students Experiencing an Intensive Emphasis on a Rigorous Mathematics Core: 2004 to 2006



Source: 2004 and 2006 Middle Grades Assessments, SREB

Figure 9
Gains in Percentages of Students Experiencing an Intensive Emphasis on a Rigorous Science Core: 2004 to 2006



Source: 2004 and 2006 Middle Grades Assessments, SREB

These data indicate that the most-improved schools' improved achievement can be attributed in part to creating a climate of academic press in which students are expected to complete challenging course work at grade-level expectations, while providing extra help to support greater student achievement.

Hayes Middle School Connects Math to the Real World

A 20-year veteran mathematics teacher at Hayes Middle School in Youngstown, Ohio, reported that teachers were receptive when the curriculum changed in 2004 to require all students to complete pre-algebra by the end of eighth grade. The curriculum is aligned with the school district's academic standards, and every nine weeks teachers receive information from the district detailing the content and standards that need to be covered in that grading period. Thus, when children transfer from one school to another within the district, they are not hindered by an incongruent curriculum or pacing.

Mathematics classes include a very strong emphasis on real-life applications of mathematics, such as: calculating percent increase, percent decrease and percent tax in stores; balancing a checking account; paying bills; and adding interest. Teachers develop potential mathematics problems to be included in the curriculum.

Mathematics instruction at Hayes focuses on students helping each other. A mathematics teacher noted: "When the students teach each other, they seem to get it." When students fully comprehend a problem, they have the opportunity to teach the class by explaining the steps used to solve the problem. This strategy helps students with comprehension through peer teaching and reinforces explanation and oral presentation skills. Teachers participated in professional development related to this collaborative work and other instructional strategies.

The school increased the percentage of eighth-grade students meeting the state standard in mathematics from 17 percent in 2005 to 31 percent in 2006.¹⁸ Students' mean mathematics score on the Middle Grades Assessment rose from 131 in 2004 to 156 in 2006, and the percentage of students meeting the mathematics performance goal, which represents readiness for high school mathematics, rose from 24 percent to 53 percent.

¹⁸ Ohio Department of Education.

Providing Engaging and Authentic Assignments

A rigorous middle grades curriculum can only prepare students for high school if they are engaged in their classes and motivated to learn. Research has shown that programs and assignments that appeal to students' sense of personal, social and community responsibilities can help raise achievement. The middle grades are the time when many students will begin to disengage from learning and become less motivated, leading to lower achievement.¹⁹ Students must be engaged in learning through instructional practices and assignments that pique their interest and motivate them to learn.

In 2004, the National Research Council completed a study on engaging and motivating students to learn.²⁰ The study found that:

Engaging schools and teachers promote students' confidence in their ability to learn... and succeed in school by providing challenging instruction and support for meeting high standards, and they clearly convey their own high expectations for their students' success. They provide choices for students and they make the curriculum and instruction relevant to adolescents' experiences, cultures, and long-term goals, so that students see some value in the school curriculum.

Rich instruction in the middle grades — including problem-based learning, embedded literacy strategies, authentic problems in mathematics and effective use of technology to engage students in challenging assignments — can improve student motivation and increase achievement.

Literacy Across the Curriculum

The most-improved schools made more progress in implementing reading and writing as a schoolwide learning strategy than the least-improved schools, achieving a seven-point gain in the percentage of students experiencing an intensive emphasis on literacy across the curriculum while the least-improved schools had a slight decline. (See Table 8.) A similar pattern is found across many indicators of literacy across the curriculum. More students in the most-improved schools reported that they made oral presentations, developed and analyzed tables

¹⁹ *Academic Achievement in the Middle Grades: What Does Research Tell Us?* Southern Regional Education Board, 2002.

²⁰ National Research Council and the Institute of Medicine. *Engaging Schools: Fostering High School Students' Motivation to Learn*. Committee on Increasing High School Students' Engagement and Motivation to Learn. Board on Children, Youth, and Families, Division of Behavioral and Social Sciences and Education, 2004.

Table 8
Changes in the Percentages of Students Experiencing
Literacy Practices: 2004 to 2006

	LEAST-IMPROVED SCHOOLS	MOST-IMPROVED SCHOOLS
Percentage of students experiencing an intensive emphasis on literacy	-1.61	+6.96**
INDICATORS:		
I stand before the class and make an oral presentation on an assignment in English/language arts once a semester or monthly .	-2.63	+3.83
I spend one or more hours reading outside of school on a typical day.	-0.26	+2.37
I read 11 or more books this year both in and out of school.	+3.19	+5.99**
I develop and analyze tables, charts and graphs often .	-4.58*	+6.87**
I use the Internet to find information for completing assignments often .	-0.06	+2.93
I receive samples of high-quality work to use as models monthly or weekly .	+3.35	+1.36
I use a computer at school for schoolwork monthly or weekly .	-3.44	+12.32**

Source: 2004 and 2006 Middle Grades Assessments, SREB

Notes: * $p < .05$ using a Chi-square test of significance

** $p < .01$ using a Chi-square test of significance

and charts and used a computer for schoolwork in 2006 than in 2004. These practices improve student achievement in reading and in the subject area by engaging students in the language of the subject.

All Teachers Teach Literacy at Old Court Middle School

Old Court Middle School (OCMS) in Baltimore, Maryland, places a strong emphasis on reading and writing for learning across the curriculum. All teachers have received professional development in designing constructed response questions. Teachers in every content area have learned how to give assignments that require students to find the main ideas and justify their answers with details from the readings. A key factor in the school's successful implementation has been the strategy of embedding reading standards and literacy strategies in all core academic classes.

Baltimore county has supported OCMS in increasing students' literacy proficiency. It helped the school purchase literacy materials to create a comprehensive course that "goes back to basics with phonemic awareness, and up through comprehension," the principal reports. OCMS students who score at the "basic" or "low proficient" levels on state tests are enrolled in the special course.

Reading classes are available to all students who do not meet standards, and extra help is available to students through an after-school reading program three times a week. This extra help includes the intervention program, "Soar to Success," created by the Florida Center for Reading Research. The program makes use of authentic literature, graphic organizers and reciprocal teaching to help students become effective strategic readers. OCMS provides bus transportation home for students who stay after school for this program.

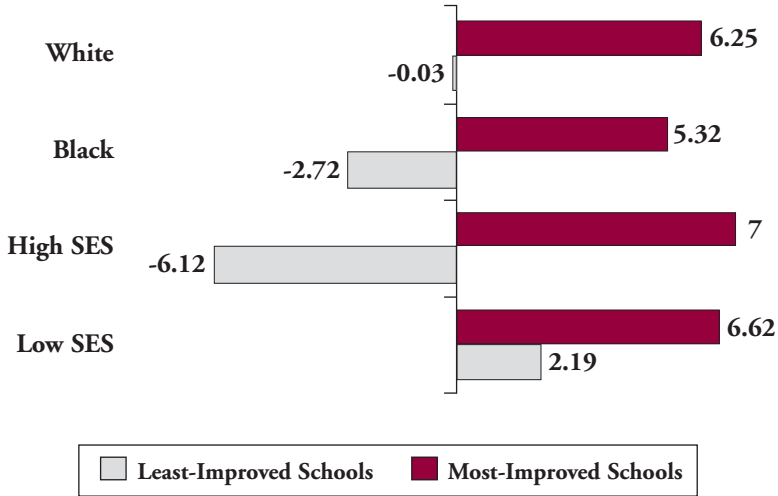
These literacy strategies are paying off for OCMS. The percentage of students who reached the performance goal in reading on the 2006 Middle Grades Assessment — representing readiness for high school English/language arts — more than doubled, increasing from 31 percent in 2004 to 86 percent in 2006.

The most-improved schools increased the percentage of all groups of students that used reading and writing strategies for learning across the curriculum. These schools regularly included reading, writing and oral presentations in all courses, rather than focusing on them in isolated lessons only in English courses. In most instances, the least-improved schools saw a decrease in the percentage of students experiencing these strategies. (See Figure 10.) This decline is likely due to a failure to make reading for learning a priority across the curriculum and to prepare teachers to implement literacy strategies in all courses.

Engaging Mathematics Instruction

Significantly more students at the most-improved schools in the *MMGW* network experienced engaging mathematics instruction in 2006 than in 2004 — an increase of nearly 13 percentage points. At the same time, the least-improved schools experienced a decrease in the number of students reporting that they

Figure 10
Gains in Percentages of Students Experiencing an
Intensive Emphasis on Literacy: 2004 to 2006



Source: 2004 and 2006 Middle Grades Assessments, SREB

received engaging mathematics instruction. (See Table 9 on the next page.) The most-improved schools experienced significant increases in the percentage of students reporting they were developing critical thinking skills, working in teams, seeing the connection between course content and the real world, and using technology. More students in these schools reported using scientific calculators, the Internet, and word-processing software compared to students in the least-improved schools. The difference between the change in student access to graphing calculators between the two sets of schools is striking — nearly a 14-point difference.

The most-improved schools also increased the percentage of students reporting they had used critical-thinking skills and experiencing reading, writing and presentation skills to demonstrate understanding of mathematical operations. These students said they used written and oral presentations to explain different ways for solving problems. They developed and analyzed tables and charts, solved problems, brainstormed solutions with other students and used math skills to solve problems from other classes. Students indicated that their teachers knew the subject and made it useful and that they showed students how mathematics can be used to solve problems in real life, increasing the percentage of students who understand the connection between mathematics and the real world.

Table 9
Changes in Percentages of Students Experiencing Engaging
Mathematics Instruction: 2004 to 2006

	LEAST-IMPROVED SCHOOLS	MOST-IMPROVED SCHOOLS
Percentage of students experiencing an intensive emphasis on numeracy	-0.69	+12.54**
INDICATORS:		
I use a scientific calculator to complete math assignments at least weekly .	-0.39	+13.18**
I often use the internet to find information for completing assignments.	-0.06	+2.93
I use word-processing software to complete an assignment or project often .	-2.61	+2.88
I develop and analyze tables, charts and/or graphs in my school work often .	-4.58*	+6.87**
I work in groups to brainstorm how to solve a math problem monthly or weekly .	-3.90	+5.36*
I explain to the class how I solved a math problem monthly or weekly .	+5.12*	+5.43*
I write a few sentences about how I solved a math problem at least monthly .	-4.79*	+11.84**
I explain different ways for solving math problems monthly or weekly .	+1.37	+8.39**
I use math skills to solve problems in other classes at least monthly .	+18.53**	+27.26**
I solve math problems other than from textbooks at least weekly .	-0.07	+8.93**
I work with other students on challenging math assignments at least monthly .	-5.15*	+5.99**
My math teachers show us how math can be used to solve problems in real life.	-1.54	+3.55*
My teachers know their subject and can make it interesting and useful often .	-2.76	+3.08
My teachers encourage students to help each other and learn from each other sometimes or often .	-3.77	+6.64**

Source: 2004 and 2006 Middle Grades Assessments, SREB

Notes: * $p < .05$ using a Chi-square test of significance

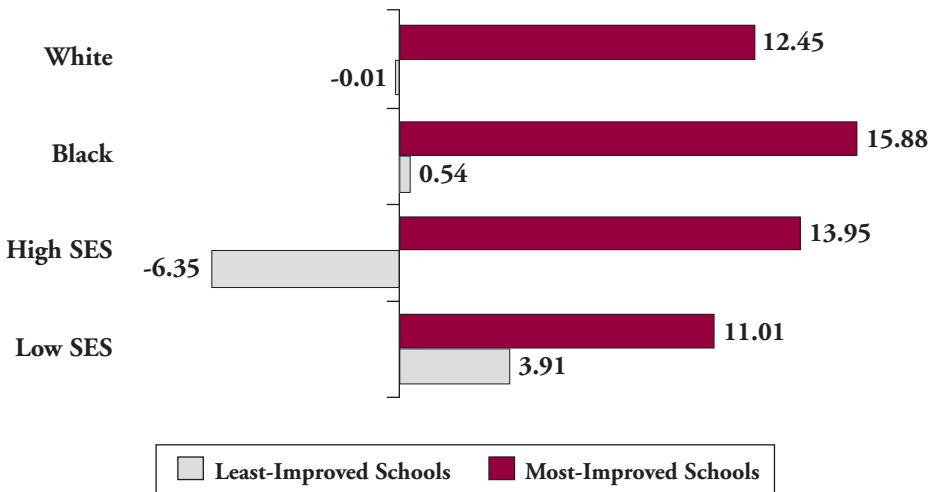
** $p < .01$ using a Chi-square test of significance

The most-improved schools went beyond teaching procedural math and devoted more instructional time to developing students' ability to reason with mathematics. This suggests that schools wanting to improve middle grades mathematics achievement should spend less time on drills and more time on learning activities that stress problem-solving and deeper understanding of mathematical concepts.

A greater percentage of all groups of students in the most-improved schools experienced an intensive emphasis on engaging mathematics instruction in 2006 than in 2004. These schools experienced a 12-point gain among white students, a 16-point gain among black students, a 14-point gain among high-SES students, and an 11-point gain among low SES students — significantly higher than any gains made in the least-improved schools. (See Figure 11.) **The most-improved schools provided a richer learning experience for all groups of students. While students in the least-improved schools continue to experience the more traditional approach to mathematics instruction (learning math procedures, completing drill sheets, working individually), students in the most-improved schools are engaged in mathematics through teamwork, real-world problems and the use of technology.**

Figure 11

Gains in Percentages of Students Experiencing an Intensive Emphasis on Numeracy Across the Curriculum: 2004 to 2006



Source: 2004 and 2006 Middle Grades Assessments, SREB

Sturgis Williams Middle School Focuses on Mathematics

Sturgis Williams Middle School in Sturgis, South Dakota, emphasizes the importance of mathematics by getting more students to complete pre-algebra and Algebra I in the middle grades. In only a few years, the school has increased the percentage of students taking Algebra I in eighth grade from 20 percent to 60 percent. Teachers hold higher expectations for students, and the principal believes that these expectations are “the number one factor” in increased mathematics test scores. Increased expectations are supplemented with a new textbook series that places less emphasis on general mathematics skills and more emphasis on algebra concepts beginning in the sixth grade. Mathematics classes are moving away from drill-oriented methods and toward applied, project-based learning.

A greater use of technology has added to the increase in mathematics rigor at Sturgis-Williams. The school has implemented a computer program that allows individualized interaction with students so that teachers can modify the curriculum continually to suit the needs of every student, making sure they understand every new concept. Teachers also use their own Web pages to post a problem of the week for students. This strategy is implemented across all subjects and counts toward students’ grades. The school also hosts a “math night,” during which parents visit the school, students demonstrate projects in which they apply math skills, and students and parents work together on a project.

Sturgis-Williams’ emphasis on a rigorous and engaging mathematics curriculum has benefited student achievement. The school increased the percentage of students meeting the *MMGW* performance goal in mathematics from 61 percent in 2004 to 69 percent in 2006. It also increased the percentage of eighth-grade students at or above the proficient level on the state assessment from 62 percent in 2005 to 68 percent in 2006.²¹

Engaging Science Instruction

In addition to emphasizing literacy across the curriculum and rigorous mathematics instruction, the most-improved schools provided a science curriculum that engages students in hands-on learning. The most-improved schools made greater gains in the percentage of students experiencing an intensive emphasis on engaging science practices. (See Table 10.) More students experienced literacy practices — such as writing lab reports, keeping notes in lab books, and writing long answers to test questions — that advance students’ ability to read and understand materials in science courses. These students were engaged in the content through the use of science equipment and technology. More classrooms

²¹ South Dakota Department of Education.

in the most-improved schools focused on students completing scientific experiments that helped them make connections between science and the real world, while science classrooms in the least-improved schools appeared to focus on teacher lectures and textbook-based instruction.

Table 10
Changes in Percentages of Students Experiencing Science:
2004 to 2006

	LEAST-IMPROVED SCHOOLS	MOST-IMPROVED SCHOOLS
Percentage of students experiencing an intensive emphasis on science.	-4.97*	+8.01**
INDICATORS:		
I complete science projects that take a week or more.	-3.20	+1.00
I complete written lab reports on scientific investigations once a semester or monthly .	-7.08**	+3.42
I use equipment to do activities in a science laboratory with tables and sinks once a semester or monthly .	+0.35	+6.14**
I use word-processing software to complete an assignment or project often .	-2.61	+2.88
I complete short writing assignments of one to three pages for a grade in science classes once a semester .	-1.22	+0.34
When doing science experiments, I use a lap-top computer, lab book or notebook to keep records, logs and comments.	-4.45*	+9.22**
I have to write long answers to questions on science tests monthly .	-2.09	+3.81
Teachers know their subject and can make it interesting and useful often .	-2.76	+3.08
Teachers encourage students to help each other and learn from each other sometimes or often .	-3.77	+6.64**
I develop and analyze tables, charts and/or graphs in my school work often .	-4.58*	+6.87**
I use the Internet to find information for completing assignments often .	-0.06	+2.93

Source: 2004 and 2006 Middle Grades Assessments, SREB

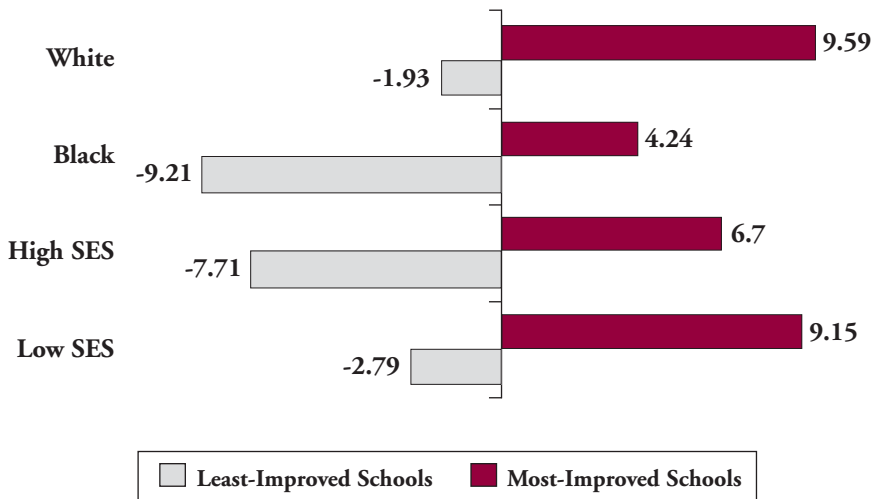
Notes: * $p < .05$ using a Chi-square test of significance

** $p < .01$ using a Chi-square test of significance

The most-improved schools increased the percentages of all groups of students experiencing an intensive emphasis on hands-on, inquiry-based assignments that allow students to understand the language and mathematics of science. The least-improved made much less progress in actively involving students in science and experienced a decline in the percentage of all groups of students receiving an intensive emphasis on engaging science instruction. (See Figure 12.)

Figure 12

Gains in Percentages of Students Experiencing an Intensive Emphasis on Engaging Science Instruction: 2004 to 2006



Source: 2004 and 2006 Middle Grades Assessments, SREB

Emphasizing Transitions

Preparing students for college and careers begins in the middle grades. This is the time when students can begin to connect their studies to their future goals; yet too many adolescents struggle to find this connection. Middle grades students need quality guidance to help them prepare for high school and beyond by setting specific goals and knowing what is required to achieve them.

In 2006, 87 percent of students in the most-improved schools and 83 percent of students in the least-improved schools indicated they planned to continue their education beyond high school. **More than two-thirds of students in the**

most-improved schools were on course to pursue this goal, compared with 34 percent in the least-improved schools. Furthermore, the most-improved schools were making more progress in ensuring all groups of students — especially low-SES and black students — receive the guidance they need to succeed in high school and beyond. (See Figure 13.) Students in both sets of schools have similar aspirations, but more students in the most-improved schools are receiving the quality guidance and education necessary to fulfill these goals.

In the most-improved schools, adults regularly meet with students to discuss their plans for high school. They assist students in identifying goals and help explain what is required to achieve them. Students in the most-improved schools have teachers who understand what will be expected of them in the ninth grade and who work to prepare them for the transition.

Table 11
Changes in Percentages of Students Experiencing Guidance:
2004 to 2006

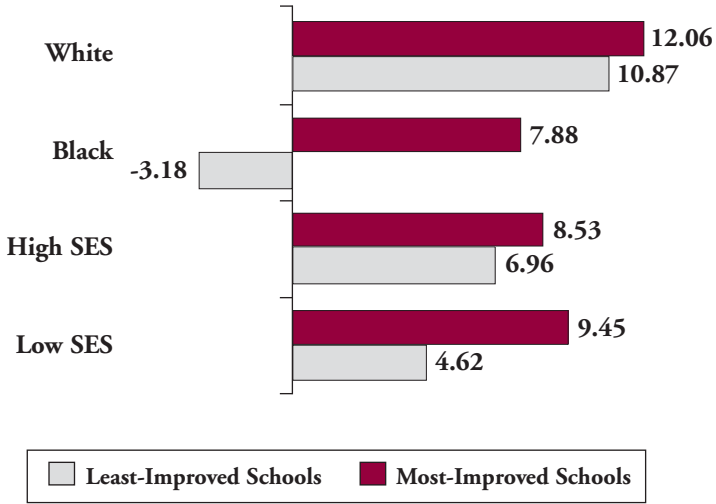
	LEAST-IMPROVED SCHOOLS	MOST-IMPROVED SCHOOLS
Percentage of students experiencing an intensive emphasis on guidance	+5.54	+9.3**
INDICATORS:		
I was encouraged by a counselor or teacher to take Algebra in seventh or eighth grade.	+3.86	+9.07**
My parents and someone at school helped me write my plan for courses I will take in high school.	+6.07**	+5.18*
I expect to take notes from a lecture weekly in ninth-grade English.	+5.03*	+10.11**
I expect to use mathematics to solve real-world problems weekly in ninth grade.	+1.63	+8.49**

Source: 2004 and 2006 Middle Grades Assessments, SREB

Notes: * $p < .05$ using a Chi-square test of significance

** $p < .01$ using a Chi-square test of significance

Figure 13
Gains in Percentages of Students Experiencing an
Intensive Emphasis on Guidance: 2004 to 2006



Source: 2004 and 2006 Middle Grades Assessments, SREB

To prepare to achieve their goals, middle grades students need assistance in setting goals and in developing the habits of success needed for rigorous high school studies. The habits of success are skills that independent learners possess, including fundamental reading, study and organizational skills and the ability to take responsibility for completing assignments. Students who are expected to use these skills regularly are better able to comprehend and apply course content. They are prepared to learn and ready to meet standards. The most-improved schools made greater gains in the percentage of students who used a daily planner or agenda book, knew when projects were due and studied for tests over several days — all habits of success — than the least-improved schools. (See Table 12.)

Table 12
Changes in Percentages of Students Experiencing
Habits of Success Indicators: 2004 to 2006

	LEAST-IMPROVED SCHOOLS	MOST-IMPROVED SCHOOLS
I often use a daily planner or agenda book.	-3.01	+4.12
I often know when projects are due.	+2.59	+10.27**
I sometimes or often study for tests over several days.	-1.19	+3.96

Source: 2004 and 2006 Middle Grades Assessments, SREB

Notes: * $p < .05$ using a Chi-square test of significance

** $p < .01$ using a Chi-square test of significance

Tuckers Crossroads Middle School Emphasizes Technology and Study Skills

At Tuckers Crossroads Middle School in Lebanon, Tennessee, Technology and Study Skills is a required class for all students. In grade six, the course focuses on keyboarding skills, and students try to reach a typing speed goal of 60 words per minute by the time they leave the eighth grade. The class also teaches research skills tied to the skills and content students are learning in their core classes. In grades seven and eight, the class provides resources for students working on their seventh- and eighth-grade research projects.

Having a Clear Mission and Recognizing a Common Vision for School Improvement

To successfully engage in continuous school improvement, school administrators and teachers must be committed to constant efforts to advance student achievement. A school environment with a clear mission supported by all adults can lead to learning and increased achievement.

Results from the 2004 and 2006 *MMGW* Teacher Surveys reveal that the most-improved schools have made more progress in creating an atmosphere of continuous school improvement than the least-improved schools. (See Table 13.)

More teachers in the most-improved schools indicated an intensive schoolwide emphasis on continuous improvement and reported that they are always learning and seeking new ideas on how to improve student achievement. The most-improved schools also made greater progress in the use of data to evaluate school programs and in maintaining a demanding, yet supportive, environment for students, the teacher survey showed.

Table 13
**Changes in Percentages of Teachers Experiencing
Continuous Improvement: 2004 to 2006**

	LEAST-IMPROVED SCHOOLS	MOST-IMPROVED SCHOOLS
Percentage of teachers experiencing an intensive emphasis on continuous school improvement.	-3.35	+6.94
INDICATORS:		
Teachers strongly agree that teachers in this school are always learning and seeking new ideas on how to improve student achievement.	-3.67	+2.34
Teachers strongly agree that the staff use data reports to continuously evaluate the school's academic and technical programs and activities.	+4.47	+9.74**
Teachers strongly agree that goals and priorities for this school are clear.	-1.25	+3.56
Teachers strongly agree that teachers in this school maintain a demanding, yet supportive, environment that pushes students to do their best.	-3.74	+2.30

Source: 2004 and 2006 Middle Grades Assessments, SREB

Notes: * $p < .05$ using a Chi-square test of significance

** $p < .01$ using a Chi-square test of significance

Akron Jennings Middle School Is Committed to Advancing Student Achievement

At the beginning of each school year, the principal and staff of Ohio's Akron Jennings Middle School use standardized test data to map every student's achievement. They also look at student behavior data to determine if low performance might be due to disciplinary problems. They ask questions about whether the students might be under-challenged or bored. They discuss lessons to determine if students are adequately engaged. The principal said the staff "really addressed some hard questions, and some people were upset; but the staff are veteran teachers and willing to do what is necessary to get through to the students."

The goal of creating the data maps is to move every student to the next performance level by the end of the year. Student data are entered into the data system according to their current performance category on the Ohio Achievement Test, ranging from below basic to advanced. Staff members then discuss ways to realize their goals using the data. Subsequently throughout the year, analyses of these students and their progress continues in staff meetings.

The principal reports that giving students a voice in the school helps foster greater student motivation. She incorporates this philosophy into regular grade-level meetings with students. While teachers take time for grade-level collaboration, counselors and administrators meet with students for advisory activities. Many of these activities engage students in offering their ideas on specific subjects or writing persuasive pieces on topics related to making the school an enjoyable place for learning. The principal responds to many of the essays individually. She believes that from these exercises, students learn that they can express their ideas and be heard, and administrators can learn what students are thinking. For students who often do not feel they are heard, respectful and thoughtful dialogue can encourage more intellectual engagement in school.

The school has experienced significant increases in student achievement on the Middle Grades Assessment from 2004 to 2006. Reading scores increased by 19 points, mathematics scores by 15 points and science scores by seven points. The percentage of students meeting the Ohio state standard in eighth-grade mathematics also improved, from 41 percent in 2005 to 60 percent in 2006.²²

²² Ohio Department of Education.

Chapter 4

How can states and school districts prepare more students for challenging high school studies?

Policies that focus the mission of middle grades schools on preparing students for challenging high school studies send a message that the middle grades have a clear and important purpose. The following actions by states and local districts can help schools understand their role in improving the achievement and high school readiness of students leaving the eighth grade.

- **Identify the most essential high school readiness standards in English/ language arts/reading, mathematics and science that describe what students need to know and be able to do to be prepared for challenging high school studies.**

States and school districts should examine the courses students are required to take in the ninth grade and identify the most essential standards that will equip students for high school. When defining those standards, states should develop illustrations of the type of assignments students will need to do and the type of assessment items on which they will be expected to demonstrate mastery. States and districts also should develop a review process to ensure that middle grades schools align assignments, student work and classroom assessments with high school readiness standards.

- **Establish grade-level reading standards for each grade and subject and make reading a priority for all teachers.**

This action is not only about establishing reading standards for each middle grades subject; it is also about preparing teachers to integrate those standards into their courses in ways that accelerate achievement in each subject and in reading and writing. Often, reading across the curriculum fails to place reading in the context of each discipline. Emphasizing reading in the context of a given discipline will increase students' understanding and achievement in the discipline area, prepare them as independent learners and increase their overall reading achievement.

To enhance the effect of this action, states and districts should provide teachers with high-quality professional development and develop a state or district literacy plan that details developmentally appropriate reading standards for each grade.

- **Use the National Assessment of Educational Progress (NAEP) benchmarks to align middle grades state assessments with high school readiness standards.**

State assessments should be designed to accurately measure whether or not students are on course to meet the most essential high school readiness standards. When state standards are set at or below the NAEP Basic level, they send a false message to students, leaders and teachers about students' readiness for high school. Assessments that are benchmarked to high school readiness standards and above the Basic level on NAEP more accurately reflect the knowledge and skills needed to be successful in challenging courses in the next grade. Thus, when schools align their curriculum and instructional practices with state assessment frameworks, they will know that school standards are aligned to high school readiness expectations.

- **Provide funding and support for extra-help programs for seventh- and eighth-graders who are not ready for challenging high school studies.**

Despite schools' best efforts, some students will leave the eighth grade unprepared for challenging high school studies. However, there are steps schools can take to catch these students up to grade-level standards before they enter the ninth grade. When planned jointly by middle grades and high school faculty, summer transition programs allow students to receive intensive instruction and prepare for high school. Such programs can be offered in a variety of formats. One model is a four-week, four- to six-hour daily program that provides direct instruction and laboratory work in reading and mathematics. By focusing on reading and mathematics skills, study skills and habits of success, schools can prepare more students for most courses they will encounter in grade nine. Schools can set aside time within the schedule to provide students with instruction in the tools they will need to be successful — study skills, organizational strategies, relationship-building techniques and use of technology.

For such programs to be effective, schools will need time and resources to support teachers to tutor and re-teach as necessary to help students who are behind. By investing in transitional and extra-help programs, states and districts can provide the increased instructional time at-risk students need to overcome obstacles and improve achievement.

- **Establish policies that require schools to identify fifth- and sixth-grade students who need an accelerated curriculum to be ready for the ninth grade.**

The gap between low-achieving and high-achieving students, which begins to develop more clearly in grades five and six, often continues to widen as students approach and enter high school. A successful strategy for narrowing this gap is to identify students who are performing below grade-level and enroll them in a mainstreamed accelerated curriculum that includes intensive instruction and extra help designed to help them meet grade-level standards by the time they enter high school. Sorting low-achieving students into lower-level classes sends a message that they cannot and will not be expected to do higher-level work. More students will succeed when schools express confidence in their abilities, enroll them in a curriculum taught to grade-level standards and give them the support necessary to meet the standards.

- **Support schools in implementing a system of reteaching until students meet grade-level standards.**

School districts can help teachers and school leaders define what grade-level work, assignments and assessments look like. Schools should develop a grading system that defines A work as above grade level, B work as grade level and C work as approaching grade level. After deciding upon a grading system, schools should establish a procedure that requires students performing below grade level to be retaught and to redo work until they meet grade-level standards. States and districts will need to help schools determine how to best use their resources to provide the extra time, support and instruction students need. The goal is to motivate students to make the effort to complete assignments at grade level the first time.

- **Support schools in orienting middle grades students and their parents to high school expectations, beginning in grade six.**

Middle grades achievement can affect students' success in high school and, ultimately, their success in postsecondary studies and careers. It is important that students and their parents understand the level of work that will be expected of them in high school. High school faculty and guidance counselors need to inform middle grades students and their parents about the level of work required in a college-preparatory high school curriculum. Students need an opportunity to visit the high school and see what high school is like. When students and parents understand high school expectations, they can take the necessary steps to prepare in the middle grades.

In addition to helping students understand the level of work they will encounter in high school, middle grades schools need to help students understand how they can meet their goals. Schools can organize a process for middle grades students and their parents to work with a school representative to develop a six-year high school plan of study. Such a plan can inform and encourage students and their parents to think about high school and make choices in the middle grades that will prepare them to meet their goals. Districts can provide professional development to help schools and districts succeed in this effort, and states can require such plans and provide support for their development

- **Encourage middle grades schools to provide students with opportunities to explore the world beyond school.**

Students in middle grades have exploring minds and they need rich learning experiences that link academic studies to authentic activities, problems and projects within their community, state, nation and world. They need opportunities to master grade-level academic standards in the context of authentic activities and situations. Such learning opportunities serve a dual purpose: First, they provide a way for disinterested students to see how school relates to their interests and why mastering academic standards is essential for success. Second, they provide a way to try on different roles, discover the kinds of experiences that really engage them, see how those experiences relate to future career opportunities and understand the type of educational preparation such opportunities require. This enables students and their parents to reflect on the importance of high school and why it is essential to be prepared for challenging high school studies. Many students often do not take a real interest in mathematics, for example, until they have experienced authentic learning activities that require mathematics for completion. States and districts should support middle grades schools to provide students with a range of exploratory opportunities that inspire them to master essential academic content at grade-level standards so they can meet their goals.

- **Assist schools in integrating habits of success (reading, study and organizational skills) into the middle grades curriculum.**

Not all students enter the middle grades equipped with the reading, study and organizational skills necessary to effectively manage their time. Teaching students how to take notes, read materials or study for exams can help increase academic achievement. For many students, the middle grades are the first real academic challenge they face — the first time they have to apply effort to succeed — and some are overwhelmed by the challenge. Teachers can integrate habits of success into all classes and require students to use

specific study skills to complete specific assignments. States and district leaders must insist that principals assist teachers to focus on and review such strategies by incorporating habits of success into their daily lessons.

■ **Recruit the right people to become middle grades principals and prepare them to work with faculty in aligning curriculum, instructional activities, classroom assignments and assessments to high school readiness standards.**

School districts often assign individuals to become middle grades principals as training for becoming high school principals. Instead, districts need to recruit middle grades principals based on candidates' knowledge of the middle grades, evidence that they can move below-grade-level students to grade-level standards, and a record of effective leadership. Potential middle grades principals need training to understand grade-level standards in grades five, six, seven and eight, in at least the four core academic areas. Further, they need training on research-based instructional strategies for embedding literacy standards and strategies into all curriculum areas, an understanding of effective mathematics instruction and strategies for embedding numeracy across all learning experiences in the middle grades. Principals need to know how to support science teachers to engage students in inquiry- and lab-based science projects and assignments, rather than relying on textbooks and memorization of facts. States should urge local school districts to develop succession plans to select and support the preparation of school leaders who have a real interest in the middle grades.

Appendices

Appendix A: Discussion Guide and Study Questions for Administrators and Faculty

School administrators and faculty teams can use these questions to guide their school improvement discussions as they relate to the findings of this report.

Predictions

This study identified the 15 most- and least-improved middle grades schools over a two-year period and examined the differences in school and classroom practices that may account for these differences in achievements.

1. Which practices would you predict have been implemented by the most-improved schools but not by the least-improved schools? After reading this report, which implemented practices surprise you most? What are the implications for your school from this study?

Achievement among all groups of students

2. As you consider your school, which groups of students are making the greatest gains in achievement? The least gains in achievement? Is the gap between the highest-achieving and lowest-achieving groups widening? What insight does this study provide about practices that may improve the achievement for all students and begin to close achievement gaps? What strategies can your school implement to advance the achievement of all groups of students?

High expectations and extra help

3. Does your school hold high expectations for all groups of students and provide extra help to assist them in meeting grade-level standards or higher? Has your school or district defined high school readiness standards? Are all students expected to meet those standards? What policies and strategies can be implemented to increase the level of expectations for all groups of students at your school?
4. As described in this report, Centreville Middle School engaged in heterogeneous grouping of students. In other words, it ceased tracking students into classes based on ability levels. Does your school currently track students into different level courses based on ability? What preparation would your school's

teachers need to enroll all students in an accelerated grade-level curriculum designed to prepare them for high school? What types of support do you need from the district? How will you get parents on board?

Rigorous curriculum and quality instruction

5. Are all students at your school experiencing a rigorous curriculum? Do all students complete Algebra I before leaving the eighth grade? Are science classes centered on inquiry-based instruction with laboratory assignments? Are literacy standards and strategies implemented by all teachers across the curriculum? Do all teachers implement effective strategies to engage students in learning? Which instructional strategies could most impact achievement in all content areas?

Transitions

6. Are your school's high school readiness standards clearly communicated to students and parents, beginning in the sixth grade? Do guidance counselors or teachers meet with students and parents to discuss students' readiness to complete high school studies? Do all eighth-grade students have a plan of study for high school courses and goals they plan to pursue after high school? What steps can your school take to help parents and students prepare for high school earlier in the middle grades?

Common vision

7. Does your school have a functional mission statement to prepare all students for high school work? Do administrators and faculty review the mission statement at least annually and align improvement activities to its goals? What is the percentage of faculty engaged in school improvement activities (e.g., participating on improvement teams, leading an improvement program or activity)? What percentage of faculty participate in high-quality staff development activities at least annually? What steps can administrators and faculty leaders take to engage and mobilize more faculty in the school's improvement plans?

Actions

8. Based on information obtained in this report, what three or four priority actions could your school take that would have the greatest impact on the achievement of all students while accelerating achievement among the lowest-performing students?

Appendix B: 2006 Making Middle Grades Work Indices

SREB has developed 10 indices related to instructional effectiveness and student achievement. These indices, based on the *MMGW* Key Practices, each include a set of indicators, or practices, that have been statistically proven to have a positive impact on student achievement. The indices have three levels of emphasis — intensive, moderate or low — based on the number of identified practices that students experience.

1. Emphasis on High Expectations

Students reported:

- Most teachers encouraged them to do well in school **often**.
- Teachers set high standards and were willing to help them meet standards **often**.
- Teachers clearly indicated the amount and quality of work necessary to earn a grade of A or B at the beginning of a project or unit **often**.
- They revised essays or other written work several times to improve their quality **often**.
- They worked hard to meet high standards on assignments **often**.
- They spent **one hour or more** on homework each day.
- School and classroom rules were defined and clear **often**.
- They failed to complete or turn in assignments **never or rarely**.

Intensive: 5–8 items

Moderate: 3–5 items

Low: 0–2 items

2. Emphasis on Extra Help and Support

Students reported:

- Their teachers cared about them enough that they would not let them get by without doing the work **often**.
- They were able to get extra help from teachers when needed without much difficulty **often**.
- Their teachers and other adults at school were available before, during or after school to help them with their studies a **few times a week**.
- The extra help they received at school helped them to understand schoolwork better **sometimes or often**.

- They tried harder on schoolwork after receiving extra help **sometimes or often**.

Intensive: 5 items

Moderate: 3–4 items

Low: 0–2 items

3. Emphasis on a Rigorous English/Language Arts Curriculum

Students reported:

- They have taken advanced English/language arts classes.
- They wrote a major research paper (with footnotes and bibliography) on a subject they chose **once a year or once a semester**.
- They completed short writing assignments of one to three pages for a grade in English classes **monthly or weekly**.
- They read 11 or more books this year both in and out of school.

Intensive: 3–4 items

Moderate: 2 items

Low: 0–1 items

4. Emphasis on a Rigorous Mathematics Curriculum

Students reported taking a rigorous mathematics course this year.

Intensive: First-year algebra or higher

Moderate: Pre-algebra

Low: Other courses

5. Emphasis on a Rigorous Science Curriculum

Students reported:

- They completed hands-on projects with living things in science.
- They completed hands-on projects with chemistry in science.
- They completed hands-on projects with simple machines in science.
- They completed hands-on projects with the environment in science.
- They used mathematics skills to solve problems in science **monthly or weekly**.
- For laboratory investigations in science, they chose a topic for investigation **once a semester or once a year**.
- For laboratory investigations in science, they designed an experiment about the topic they chose **once a semester or once a year**.

- For laboratory investigations in science, they prepared a written report of the lab results **once a semester or once a year**.
- For laboratory investigations in science, they talked to the class about the lab results once a **semester or once a year**.
- They took integrated science this year.

Intensive: 8–10 items

Moderate: 5–7 items

Low: 0–4 items

6. Emphasis on Literacy Across the Curriculum

Students reported:

- They stood before the class and made an oral presentation on a project or assignment to meet specific quality requirements in English/language arts classes **once a semester or monthly**.
- They spent **one hour or more** reading outside of school on a typical day.
- They read **11 or more** books this year both in and out of school.
- They used word-processing or presentation software to complete English assignments **monthly or weekly**.
- They had to develop and analyze tables, charts and/or graphs in school work **often**.
- They used the Internet to find information for completing assignments **often**.
- They received samples of high-quality work to use as models **monthly or weekly**.
- They used a computer at school for schoolwork **monthly or weekly**.

Intensive: 5–8 items

Moderate: 3–5 items

Low: 0–2 items

7. Emphasis on Numeracy Across the Curriculum

Students reported:

- They developed and analyzed tables, charts and/or graphs in their school work **often**.
- They used a scientific calculator to complete mathematics assignments **at least weekly**.
- They solved mathematics problems other than from textbooks **at least weekly**.

- They worked with one or more students in their class on a challenging mathematics assignment **monthly or weekly**.
- They worked in groups to brainstorm how to solve a mathematics problem **monthly or weekly**.
- They explained to the class how they solved a mathematics problem **monthly or weekly**.
- They wrote a few sentences about how they solved a mathematics problem **monthly or weekly**.
- They explained different ways for solving mathematics problems **monthly or weekly**.
- They used their math skills to solve problems in other classes **monthly or weekly**.
- Their mathematics teachers showed them how math can be used to solve problems in real life.
- Their teachers knew their subject and made it interesting and useful **often**.
- Their teachers encouraged students to help each other and learn from each other **sometimes or often**.
- They used the Internet to find information for completing assignments **often**.
- They used word-processing software to complete an assignment or project **often**.

Intensive: 11 – 14 items

Moderate: 7 – 10 items

Low: 0 – 6 items

8. Emphasis on Engaging Science Experiences

Students reported:

- They completed science projects that lasted a week or more.
- They completed written lab reports on scientific investigations **once a semester or monthly**.
- They worked with one or more students on a challenging science assignment **once a semester or monthly**.
- They used equipment to do activities in a science laboratory with tables and sinks **once a semester or monthly**.
- They used word-processing software to complete an assignment or project **often**.

- They completed short writing assignments of one to three pages for a grade in science classes **once a semester**.
- When doing science experiments or investigations in school, they used a lap-top computer, a lab book or a notebook to keep records, logs and comments.
- They wrote long answers to questions on tests in science **monthly**.
- Their teachers knew their subject and made it interesting and useful **often**.
- Their teachers encouraged students to help each other and learn from each other **sometimes or often**.
- They had to develop and analyze tables, charts and/or graphs in their school work **often**.
- They had to use the Internet to find information for completing assignments **often**.

Intensive: 8–12 items

Moderate: 5–7 items

Low: 0–4 items

9. Emphasis on Guidance

Students reported:

- They were encouraged by a counselor or teacher to take Algebra in seventh or eighth grade.
- They have a written plan for courses they plan to take in high school.
- Their parents and someone at school helped them write their plan for courses they will take in high school.
- They expect to take notes from a lecture **weekly** in ninth-grade English.
- They expect to use mathematics to solve real-world problems **weekly** in ninth-grade mathematics.
- They have talked with teachers or other adults at school in both seventh and eighth grade about what they will need to know and be able to do in ninth grade.

Intensive: 4–6 items

Moderate: 2–3 items

Low: 0–1 items

10. Emphasis on Leadership and Continuous School Improvement

Teachers reported:

- They **strongly agree** that teachers in this school are always learning and seeking new ideas on how to improve student achievement.
- They **strongly agree** that the staff use data reports to continuously evaluate the school's academic and technical programs and activities.
- They **strongly agree** that the teachers and administrators in this school work as a team to improve the achievement of students in this school.
- They **strongly agree** that goals and priorities for this school are clear.
- They **strongly agree** that teachers in this school maintain a demanding, yet supportive, environment that pushes students to do their best.

Intensive: 4–5 items

Moderate: 2–3 items

Low: 0–1 items

Appendix C:
Other SREB Publications that Support
Making Middle Grades Work

Making Middle Grades Work: An Enhanced Design to Get All Students to Standards

This brochure describes the *Making Middle Grades Work (MMGW)* enhanced design for school improvement, including the updated *MMGW* framework of Goals and Key Practices, recommended core curriculum and Key Conditions. Those interested in joining the *MMGW* network can learn what states, network sites and member states agree to do as part of *MMGW*. (06V15-R08); 2008

We Know What Works in the Middle Grades: Smart District Leadership Can Make It Happen

In this report, SREB compares schools in the *MMGW* initiative that have more fully implemented the *MMGW* research-based design with others that have been defined as low-implementation schools. The report shows clear differences in the achievement levels and academic success of these two groups of schools. The report also shows that dynamic, sustainable middle grades reform is far more likely to occur when district leaders, principal leaders and teacher leaders are all committed to the same improvement goals and means of achieving them. (07V10); 2007

Implementing School Reform: Making Middle Grades Work for All Students

The Research Triangle Institute prepared this report for SREB's *Making Middle Grades Work* initiative. It compares 28 high- and low-implementation schools and found that students at middle grades schools that more fully implement the *MMGW* design have higher student achievement than those at schools that do not fully implement the design. (06V03); 2006

Making High Schools and Middle Grades Schools Work

This report discusses the findings of a five-year research project assessing the effectiveness in raising student achievement of the *High Schools That Work (HSTW)* and *Making Middle Grades Work (MMGW)* school improvement models. Included in the study were 75 clusters (64 rural high schools plus their feeder middle grades schools) in 16 states. Prepared for the U.S. Department of Education, Institute of Education Sciences, the study concludes that from 1999 to 2004 the high schools with the greatest success in raising student achievement had more deeply implemented the *HSTW* school improvement design. (05V12w); 2005

Making Middle Grades Work: School and Classroom Practices That Improve Student Achievement

This research brief summarizes the results of a research study of 52 middle grades schools in 16 states. The study revealed improvement in both reading and mathematics. This report also recommends actions that states, districts and schools can take to improve achievement. (03V65); 2003

Getting Students Ready for College-preparatory/Honors Science: What Middle Grades Students Need to Know and Be Able to Do

When students leave the middle grades, they need to have the knowledge and skills to succeed in college-preparatory/honors science. This report provides guidance for a rigorous science curriculum in the middle grades that is based on a solid set of standards. Educators can use this framework in developing course syllabi, lesson plans, assignments, assessments and professional development activities that prepare students for this level of work. (04V04); 2004

Getting Students Ready for College-preparatory/Honors English: What Middle Grades Students Need to Know and Be Able to Do

This curriculum framework is an effort to ensure that students leave the middle grades with the knowledge and skills to succeed in college-preparatory/honors English. Educators can use this framework in developing course syllabi, lesson plans, assignments, assessments and professional development activities that will prepare students for rigorous English classes in high school. (03V61); 2003

Getting Students Ready for Algebra I: What Middle Grades Students Need to Know and Be Able to Do

This curriculum framework is an effort to ensure that students leave the middle grades with the mathematics knowledge and competencies to succeed in Algebra I. Educators can use this framework in developing course syllabi, lesson plans, assignments, assessments and professional development activities that will prepare students for high-level mathematics classes in high school. (02V52); 2002

What Works to Improve Student Achievement in the Middle Grades: A Making Middle Grades Work Research Report

This research report examines the design and implementation of this comprehensive improvement effort in 52 middle grades schools in 16 states. The study addresses four basic questions: 1) Is student achievement higher for eighth-graders in the network than for other eighth-graders? 2) Why do schools with similar demographics perform differently? 3) Why is achievement higher for students in schools that have implemented the design more fully? 4) What can states, districts and schools do to improve middle grades achievement? The report includes a summary of findings and recommendations for states, districts and schools. (03V64); 2003

Academic Achievement in the Middle Grades: What Does Research Tell Us?

This literature review surveys contemporary scholarship on academic achievement in the middle grades to assess the state of middle grades education and determine what led to reform. (02V47); 2002

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