

Middle Grades

► 15 Actions Your State Can Take to Maximize Young Adolescents' Readiness for Grade 9 – and College and Careers

The middle grades are in crisis. By state and national measures, student achievement gains realized in the elementary grades all too often diminish by grade 8. Consider these indicators:

- **National Assessment of Educational Progress (NAEP):** While 4th-grade math scores jumped 24 points from 1973 to 2008, 8th-grade scores saw just a 15-point improvement during the same period. Likewise, 8th-grade reading scores rose only four points 1971-2008, while 4th-grade scores increased 12 points.¹ Although 4th-grade science scores saw a modest increase between 2000 and 2005, 8th-grade science scores were stagnant in 1996, 2000 and 2005.²
- **State Assessments:** In 2006-07, 8th graders in 32 states were less likely than their 4th-grade counterparts to demonstrate proficiency in reading; in math, 48 states and the District of Columbia saw a lower proportion of 8th graders scoring at the proficient level in 2006-07, in comparison to 4th graders.³
- **Lack of Adequate Yearly Progress:** Four out of 10 (41%) of middle schools did not make adequate yearly progress (AYP) in 2005-06, compared to 19% of elementary schools and 34% of high schools. More than one out of five (22%) middle schools in 2006-07 were identified for improvement — in contrast to 13% of elementary schools and 14% of high schools whose performance triggered this designation.⁴

In most states, the considerable policy focus on high schools in recent years has not trickled down to a focus on the middle grades — yet preparation for “college- and work-ready standards” must begin *before* high school, especially for at-risk students. Although research on best practices in the middle grades is less plentiful than research on other grade levels (i.e., early learning, high school), there is growing awareness of the need for states to shift attention to what happens in the middle grades if meaningful high school reform is to be realized.

This issue of *The Progress of Education Reform* highlights key findings from recent research and publications on improving student success in the middle grades — and identifies actions states can take to translate these findings into sound policy.

What's Inside

- What your state can do **today** to improve student success in grades 5-8
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What can your state do to improve student success in the middle grades?

While by no means a comprehensive list, the following approaches are research-based and have begun to be adopted by certain states. Research suggests that acting upon all the following areas in a comprehensive manner (rather than selecting one or more area to address) will maximize student gains.⁵

Pay attention to middle grades attendance, grades and behavior

What does the research say?

Research from Johns Hopkins University has found that high-poverty 6th graders who failed English or math, whose attendance fell below 80% or who received an out-of-school suspension (or failing behavior grade) “had only a 10% to 20% chance of graduating on time,” and fewer than one out of four graduated in five years. While many high school students had three or four “off-track” indicators, off-track 6th graders often had one academic and one engagement indicator — failing English or math, and either poor attendance or poor behavior. A “significant subset of students” had only one indicator. The majority of students’ off-track indicators appeared in 6th grade, and those who started falling off track then “had worse outcomes than students who did not begin to develop off-track indicators until at least the 7th grade.”⁶

Potential actions to consider:

- ▶ *Develop early-warning mechanisms* based on these indicators (grades, attendance, behavior), and ensure that student information systems regularly collect such data throughout the school year. This data should be readily accessible, or be provided regularly to teachers and administrators in a clear and easily understandable format. Teachers, counselors and administrators should be allocated time to meet to go over student data. Such early warning systems should trigger intensive interventions for students who continue to struggle, or a ratcheting down of interventions for students responding to intervention efforts.⁷

Louisiana’s DEWS (Dropout Early Warning Systems), piloted in spring 2008, reports twice a month on students in grades 8-12 and contains most, if not all, of these key components.^{8,9} As of March 2009, 44 districts were using DEWS.¹⁰ This system easily could be expanded to collect data beginning in grade 6.

- ▶ *Calibrate early-warning indicators to local data.* Johns Hopkins research suggests that in some locales, middle grades attendance at or below 90% signaled significantly lower chances of graduation; in other districts, attendance rates below 80% yielded the same dropout odds.¹¹
- ▶ *Provide targeted, intensive academic support* to students in need, as soon as they are identified.
- ▶ *Take steps to reduce the number of absent and chronically absent students.* Johns Hopkins researcher Robert Balfanz suggests that “every absence needs to elicit a response.” For most of Georgia’s middle school graduation coaches, “attendance is the number one priority.” Graduation coaches, employed full-time in every middle school in the state in the 2007-08 school year, tracked student attendance, pinpointed reasons for student absences and applied “creative ways to encourage students to attend school.”¹²

Help students explore career options, set goals and see relevance

What does the research say?

Johns Hopkins University research suggests that “the extent to which students [in grades 5-8] found mathematics classes interesting and exciting ... had significant effects on both students’ level of effort in math class and their attendance,” and that “the extent to which students believed that the mathematics they were studying would be useful in life ... was the strongest predictor of student effort.”¹³

Potential actions to consider:

- ▶ *Ensure the curriculum is hands-on, collaborative, relevant and engaging* through activities such as virtual or on-site lab-based science, robotics and academic competitions. Such activities can (and should) be integrated into the curriculum as appropriate, and offered during out-of-school time. Recent research points to a correlation between higher average grade-8 NAEP scores and specific practices in grade-8 science classrooms, including doing hands-on activities in science, talking about results and measurements from hands-on activities, and working with others on science activities or projects.¹⁴

Washington State legislation authorizes a middle school with an approved career and technical program in science, technology, engineering or math (STEM) to receive funding equal to that granted a high school operating a similar program. The legislation also specifies that a middle school providing a hands-on experience in STEM with an integrated academic/career-technical education (CTE) curriculum and CTE exploratory component qualifies for CTE funding.¹⁵

Florida's 2006 "Secondary School Redesign Act" requires 10 guiding principles for grades 6-12 to be used in the annual preparation of every secondary school's required improvement plan. One guiding principle is that "[a]ppplied and integrated courses help students see the relationships between subjects and relevance to their futures." Reflecting this principle, the legislation requires local boards to adopt policies to address "applied, integrated and combined courses that provide flexibility for students to enroll in courses that are creative and meet individual learning styles and student needs." The measure also directs the department of education to increase the number of approved applied, integrated, and combined courses available to districts.¹⁶

- ▶ **Provide information on college admissions requirements and costs** at least annually, beginning in the middle grades. South Dakota annually provides students and their families information about the high school courses needed for admission to state postsecondary institutions, beginning in grade 7.¹⁷
- ▶ **Have all students develop an individual learning plan (ILP)** by the end of grade 8. ILPs require each student, his/her parent and a school staff member to map out the courses the student will need to complete each year of high school to be prepared for the student's stated post-high school plans. The plan typically must be annually reviewed, and amended as necessary. While some states with ILP provisions do not require plans to be developed until grade 9, some 11 states require every student to have an ILP before high school entry. Rhode Island requires each student to have an individual learning plan by entry into grade 6.¹⁸
- ▶ **Begin career exploration in the middle grades.** Included with the South Dakota information on college entrance requirements and costs are data on average annual earnings in various professions. The grade 7 materials also include a list of the fastest-growing occupations.¹⁹ Kentucky, which requires all students to have an individual learning plan starting with the student's 8th grade year, requires development of the plan to begin in grade 6 and "be focused on career exploration and related postsecondary education and training needs."²⁰

Ensure high standards for middle grades curricula and test students' knowledge of those standards

What does the research say?

According to Balfanz, "The most critical challenge is finding ways to improve the quality of middle grades coursework and course performance. Students who receive high-quality instruction and course assignments will learn and advance and, ultimately, graduate college-ready. Those who do not, will not."²¹ Similarly, ACT research suggests that "the level of academic achievement that students attain by 8th grade has a larger impact on their college and career readiness" by grades 11-12 "than anything that happens academically in high school."²²



Potential actions to consider:

- ▶ *Reduce the number of (and prioritize) middle grades content standards* to help teachers focus on the essential skills and knowledge students must possess for later success with high school course content. The National Council for Teachers of Mathematics (NCTM) recently developed a table comparing Singapore's math syllabus in grades 1-8 against NCTM's "focal points," finding a number of Singapore's expectations to be more clearly stated than NCTM's.²³
- ▶ *Develop formative and diagnostic assessments* for middle grades reading and math. While formative and diagnostic assessments are commonly mandated (especially in reading) in the elementary grades, they are less frequently required by state policy in the middle grades. However, according to ECS research, 13 states require secondary-level students performing below proficiency on state reading assessments to be targeted for diagnostic reading assessments.²⁴ Twenty-three states require schools to provide interventions to struggling readers in one or more grades 4-12.²⁵
- ▶ *Implement middle grades end-of-course assessments.* Such tests set a common statewide measure to determine that students passing core courses have met agreed-upon thresholds for knowledge and skill levels. While end-of-course assessments are increasingly common at the high school level, few states have explored the development of such tests for middle grades courses.
- ▶ *Foster collaboration among middle grades and high school teachers,* so that middle grades teachers are aware of the expectations students will be held to upon high school entry, and can help prepare students to meet them. For example, in 2008 Tennessee's state board adopted a provision that "High school and middle grades faculty will collaborate in planning curriculum and the transition between middle grades and high school."²⁶

Make sure teacher licensure represents an adequate level of content knowledge

What does the research say?

On its face, it might seem good news that in 2006-07, 87% of middle school English and math teachers were "highly qualified." However, while 40 states use at least Praxis II scores on one or more exams to determine "highly qualified" status for new teachers, cut scores vary considerably across the states. Furthermore, veteran teachers in 39 states can earn "highly qualified" status by accumulating points for past activities that may or may not reflect the content knowledge middle grades teachers must possess to prepare students for the academic challenges awaiting them in grade 9 and beyond. These states award such teachers points for activities not well-supported by research, including "other professional development (39 [states]), years of teaching experience (37 [states]) ... and publishing articles or making presentations at conferences (26 states)."²⁷

While elementary teacher preparation programs provide the tools K-8 certified teachers need to develop student literacy in grades K-3, many middle school teachers are certified at the secondary level — and haven't learned to teach some of the basic skills of reading. As stated in a 2005 National Governors Association (NGA) report, "Often middle ... school teachers view themselves as content-area specialists. They sometimes ignore the problems of their struggling readers or compensate for them by giving students notes from a reading assignment or reading a text aloud instead of helping students learn to extract information from a text themselves. These teachers do not have the training or knowledge to do more[.]"²⁸

Research comparing middle grades teacher preparation in the United States to that in five other countries also revealed that "mathematical knowledge among future teachers ... was highest in Taiwan and Korea on all five areas of mathematics — algebra, functions, number, geometry and statistics — while the U.S. performance lagged behind, scoring anywhere from the middle of the six countries ... to almost three fourths of a standard deviation below the international mean[.]"²⁹

Adolescent Literacy Database

50-state information on student identification and intervention, teacher and leader quality, and other leverage points to improve literacy in grades 4-12.

http://www.ecs.org/html/educationissues/HighSchool/highschooldb1_intro.asp?topic=al

Ensuring Successful Student Transitions from the Middle Grades to High School

Identifies four policy recommendations to facilitate better transitions (and ultimately improve high school graduation rates) from the middle grades to grade 9, and highlights state policies aligned to those recommendations.

<http://www.ecs.org/clearinghouse/78/91/7891.pdf>

Recent State Policies/Activities: Middle School

Summaries and links to newly enacted and approved state legislation and recently approved state board rules from across the states, with implications for middle grades. Updated regularly.

<http://www.ecs.org/ecs/ecscat.nsf/WebTopicView?OpenView&count=-1&RestrictToCategory=Middle+School>

Other Resources

NASSP Policy Recommendations for Middle Level Reform

Recommendations for state, district and federal policymakers on numerous issues, including adolescent literacy, low-performing students, academic rigor and support, assessment, and highly qualified teachers.

(National Association of Secondary School Principals, 2006)

<http://www.principals.org/Portals/0/Content/54017.pdf>

The Forgotten Middle

Research on the correlation between academic attainment in grade 8 and college-/career-readiness by high school completion, and policy recommendations to help more students be on the college-/career-ready path by the end of the middle grades. (ACT, 2008)

<http://www.act.org/research/policymakers/reports/ForgottenMiddle.html>

Putting Middle Grades Students on the Graduation Path

Research findings on the link between students' middle grades achievement and behavior, and odds of high school graduation.

http://www.nmsa.org/portals/0/pdf/research/Research_from_the_Field/Policy_Brief_Balfanz.pdf

The situation is especially dire given the Johns Hopkins University finding that “*teachers had the strongest impact on whether or not a student would close or widen achievement gaps during the middle grades.*”³⁰ [emphasis added]

Potential actions to consider:

- ▶ *Require preservice teachers to take subject area courses in the respective department* (i.e., require prospective math teachers to take courses taught by math faculty in the math department, instead of “education math”).
- ▶ *Require preservice and inservice programs to provide tools to help teachers address adolescent literacy needs.* The ECS Adolescent Literacy database indicates that 16 states have strengthened teacher preparation/certification requirements to address student literacy needs in grades 4-12.³¹ Fourteen states offer schoolwide professional development in adolescent literacy instruction.³²
- ▶ *Reconsider where to set content test scores.* State leaders can compare their state’s Praxis II content-area cut scores against the wide range of cut scores nationally, (see graph below), and reconsider thresholds for scores that incoming middle grades teachers need to reach to teach that content more deeply.
- ▶ A less controversial approach for ensuring veteran teachers in low-performing schools are truly highly qualified might be to *identify gaps in teachers’ content knowledge and skills*, and require those showing evidence of gaps to successfully complete online modules designed to improve content knowledge in targeted areas of need. To ensure the gap is closed, teachers who have not passed their subject-area Praxis II might be asked to take the exam after successful completion of the module.

“Eighth-grade academic achievement is the best predictor of college and career readiness by high school graduation.”³³

State Cut Scores for Praxis II Assessment of Teacher Content Knowledge in Mathematics

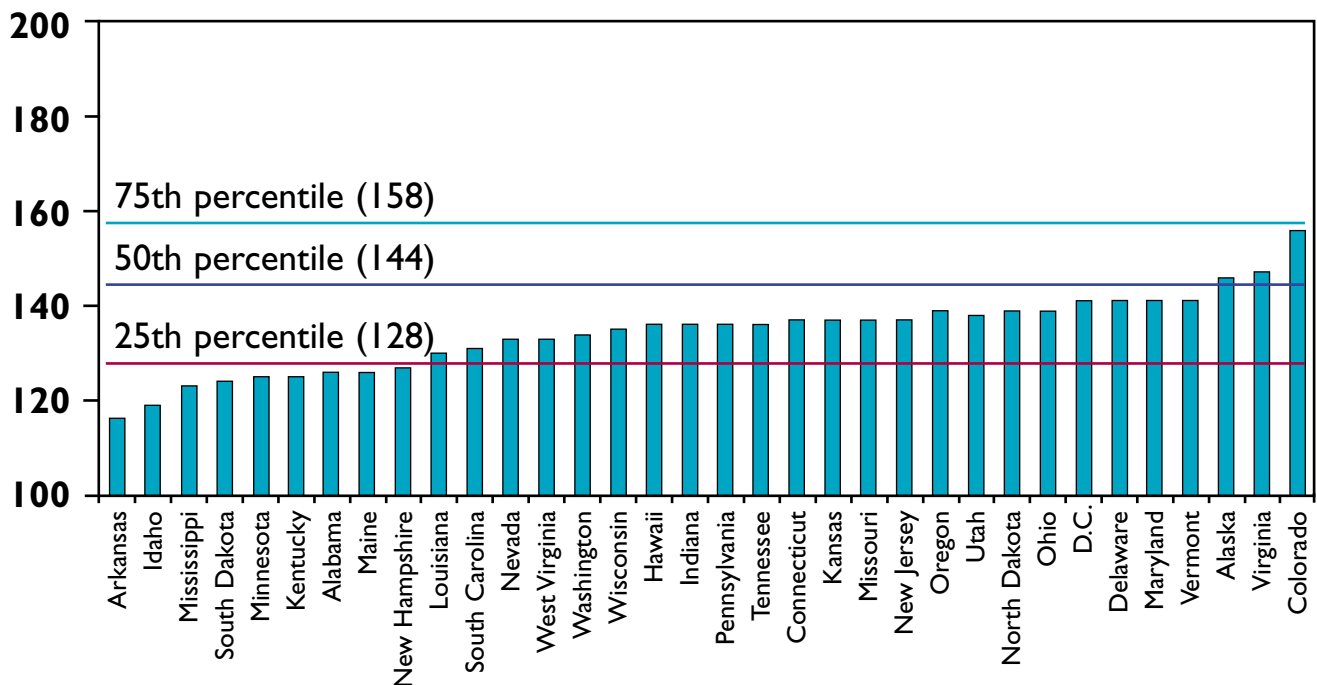


Exhibit reads: State-level cut scores on the Praxis II: Mathematics Content Knowledge assessment vary considerably; nine states set their cut scores below the score that reflects the 25th percentile of all test takers between October 2004 and July 2007, while three states set their cut scores above the 50th percentile.

Note: Praxis scores may vary from a minimum of 100 to a maximum of 200.

Source: Study of State Implementation of Accountability and Teacher Quality Under NCLB (n=33 states and the District of Columbia) and U.S. Department of Education, *Title I Implementation – Update on Recent Evaluation Findings*, January 2009, p. 44.

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