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High School Reform Begins in First Grade

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Like other states, Florida is trying to reform its secondary schools in ways that are intended to improve student achievement, increase the high school graduation rate for all groups of students, increase high school students' preparation for careers or college while they are in high school, and increase the proportion of students who are ready to enter four-year baccalaureate institutions. From 1999–2005, Florida's high school graduation rate has impressively increased for all groups, rising to 66 percent from 55 percent.

And yet, in terms of some of the other goals, there are troubling signs: The proportion of students who read at or above grade level is disturbingly low in 10th grade, as is the growing number of students who are retained (failed) in 9th and 10th grades. These trends, when seen in the context of the very impressive improvements in the elementary grades in recent years, have led to calls for reform of the high schools. In response, the Florida Department of Education created the Florida High School Reform Task Force, which has made

recommendations for change, which will be referred to later in this paper.

Principal Findings and Recommendations

1. Serious problems of low achievement do not originate in the high schools and will not be fixed by reforming the high schools.
2. Florida has made impressive progress in increasing the high school graduation rate from 1999–2005, to 66% from 55% for all students, which includes gains for students of all racial backgrounds. Better preparation in grades K–8 will enable even more students to complete high school.[1]
3. Gains made by Florida students at the elementary levels have been significant in recent years. In 2006, 70 percent of all students in grades 3, 4, and 5 were reading at or above achievement level 3 on the Florida Comprehensive Assessment Test (FCAT), compared to only 54 percent at this level in 2001. At the same time, the proportion of students in these grades who scored in achievement level 1 fell sharply between 2001 and 2006, from 30 percent to 16 percent. Similar improvements have been registered in mathematics in grades 3, 4, and 5, where the proportion scoring at or above achievement level 3 grew from 52 percent in 2001 to 66

1. *High Standards, High Performance, High School Reform,* Task Force Report and Recommendations (Tallahassee: Florida Department of Education, February 2006), p. 19. The graduation rates cited in the text refer only to students who earned a standard high school diploma. The Task Force, however, reported graduation rates that also counted as graduates students who received a GED and other special diplomas. Using the later, more inclusive method, the rate for white students grew from 80.8% to 66.9%; for black students, to 57.1% from 48.7%; for Hispanic students to 64.5% from 52.8%; for Asian students, to 82.2% from 73.4%; for American Indian students to 73.3% from 61.7%; and for multi-racial students to 77.7% from 64.7%. The URL address for this report is: http://www.fldoe.org/hsreform/pdfs/FinalReport.pdf.

percent in 2006, and the proportion scoring at level 1 fell from 27 percent to 14 percent.[2]

4. In the middle grades (6, 7, and 8), the rate of improvement has been steady but less dramatic than in the elementary grades. From 2001 to 2005, the proportion of middle school students who reached achievement level 3 or higher in reading grew from 48 percent to 51 percent. In 2006, there was an impressive six-point gain, bringing the rate to 57 percent. In middle school mathematics, the proportion meeting level 3 or higher climbed from 47 percent to 56 percent, while the proportion in the lowest level fell from 32 percent to 23 percent.[3]
5. There have been some gains in the reading performance of 9th and 10th grades, from 32 percent meeting the standard in 2001 to 37 percent in 2006. In high school mathematics, performance is decidedly better, with the proportion meeting standards growing from 52 percent in 2001 to 62 percent in 2006. Despite the improved performance in these grades, it is nonetheless disturbing that the proportion of students who meet standards declines with each passing year, with a marked drop from grade 7 to grade 8. It may be that achievement in the high school years will grow as the cohort in the elementary grades gets older. But this sharp falloff in achievement in middle school suggests that students are mastering the basics of reading, but a significant number are not acquiring the background knowledge necessary to comprehend the increasingly complex text encountered at higher grade levels.[4]
6. The grade levels that have shown the least improvement in reading, as measured by the FCAT, are grades 8 and 10. From 2001 to 2006, the proportion of 8th grade students who scored at level

2. Florida Department of Education, *Reading and Mathematics, Grades 3–10* (May 23, 2006), pp. 12–14.

3. Ibid., pp. 18–19.

4. Ibid., pp. 24–25.

3 or above rose from 43 percent to 46 percent. Among 10th grade students, the proportion of students to reach that level actually declined from 37 percent to 32 percent.[5]

7. Seventeen percent of students in grade 9 were retained (failed) in 2004 because they had not earned enough credits to be promoted to the next grade. The retention rate in grades 10 and 11 was over 10%. In middle school, it should be noted, retention rates were 5% or less. These figures, taken together, suggest that many students have been socially promoted from middle school to high school, leaving them unprepared for the academic demands of high school studies.[6]
8. In response to the persistent problems described above, Florida officials concluded that there is "a dire need for high school reform in Florida."[7] A sweeping package of reforms was enacted by the State Legislature in 2006 and signed into law by Governor Bush on June 5, 2006.
9. Many students entering high school are unready for high-school studies. Commendably, the state has embarked upon an ambitious program to improve achievement in middle school as well as high school.
10. The principal recommendation of this paper is that the state should revise and strengthen its curriculum frameworks so as to focus on the essential knowledge and skills that are required for stronger academic performance by all students across the state. The frameworks should describe the sequential development of knowledge and skills grade-by-grade, beginning in kindergarten. These frameworks can then serve as the basis for professional develop-

5. Ibid., p. 24 (see *High Standards, High Performance*, p. 18). See, Florida Department of Education, "Reading Scores: Statewide Comparison for 2001 to 2006, FCAT Reading-Sunshine State Standards Test," May 2006.

6. *High Standards, High Performance*, p. 19.

7. Ibid., p. 20.

ment, teacher education, and testing. They will also enable students to make the leap from reading competently in 4th grade and 5th grade to understanding the increasingly complex materials used in later grades.

Is High School the Main Cause of Persistently Low Achievement?

There is a new conventional wisdom, shared by policymakers in Florida and elsewhere, that low achievement and low high school graduation rates are caused by something that is happening (or not happening) in the high schools. Perhaps the most widely cited example of this conventional wisdom is to be found in a speech by Bill Gates of Microsoft to the National Governors Association, where he declared that the nation faced a crisis because of the "obsolescence" of America's high schools. Gates said, "When I compare our high schools to what I see when I'm traveling abroad, I am terrified for our workforce of tomorrow. In math and science, our 4th graders are among the top students in the world. By 8th grade, they're in the middle of the pack. By 12th grade, U.S. students are scoring near the bottom of all industrialized nations." The same view is found in Thomas Friedman's best-selling book *The World Is Flat*; Friedman quotes Intel's director of corporate affairs, who says, "In our K to twelve we were doing okay at the 4th-grade level, we were doing middle-of-the-road in the eighth grade, and by the twelfth grade we were hovering near the bottom in international tests related to math. So the longer kids were in school, the dumber they were getting." However, Florida policymakers recognize that the poor performance of high school students is rooted in inadequate preparation in earlier grades. Cheri Pierson Yecke, Florida's Chancellor of K–12 Public Schools, has pointed out that the governors who responded to Bill Gates' challenge were misidentifying the cause of high school problems. She wrote, "Abundant evidence indicates that the seeds that produce high school failure are

sown in grades 5–8. In far too many cases, American middle schools are where student academic achievement goes to die."[8]

The reason that so many estimable people blame the high schools as the main culprit for poor student achievement is that they have read or read about the results of several international assessments of mathematics and science. The usual analysis of these results, as described repeatedly by experts at the U.S. Department of Education, says that students' scores decline the longer they remain in school: 4th graders in the U.S. were either at or above the international average; 8th grade students were either at or below the international average; and high school students were below the international average. After 4th grade, it seemed, achievement dropped off on a downward trajectory.

This conventional wisdom has recently been directly challenged, one might even say disproved, by a recent study performed by the American Institutes for Research (AIR), a nonpartisan research organization in Washington, D.C. A team of researchers reanalyzed the findings from the international assessments of mathematics conducted in 2003. There were three such assessments: One was a test of students in grade 4 by the Trends in International Mathematics and Science Study (TIMSS-4); another was a test of students in grade 8 by TIMSS (TIMSS-8); and the third was a test of students age 15 by the Program for International Student Assessment (PISA).[9]

The AIR study found that the widespread public discussion of

8. For Bill Gates' speech to the National Governors' Association, see http://www.gatesfoundation.org/MediaCenter/Speeches/BillgSpeeches/BGSpeechNGA-050226.html; Thomas Friedman, *The World Is Flat: A Brief History of the Twenty First Centur*y (New York: Farrar, Straus, and Giroux: 2005), pp. 272–273. Cheri Pierson Yecke, "Middle and High School Reform: Changing the Culture," *High Standards, High Performance, High School Reform*, ibid., p. 6–8; Yecke, *Mayhem in the Middle: How Middle Schools Have Failed America—and how to make them work* (Thomas B. Fordham Institute: September 2005), p. 1. (For the full publication, see http://www.edexcellence.net/foundation/publication/publication.cfm?id=345.)

9. Alan Ginsburg, Geneise Cook, Steve Leinwand, Jay Noell, Elizabeth Pollock, *Reassessing U.S. International Mathematics Performance: New Findings from the 2003 TIMSS and PISA* (Washington, D.C.: American Institutes for Research, 2005).

these assessments had "given an inaccurate impression" that the performance of U.S. students declined precipitously as students moved to higher grades. That impression, they hold, is largely the result of "comparison bias" because of the "variability in the composition of countries participating in each assessment." Twenty-four countries participated in the TIMSS-4, 45 in TIMSS-8, and 40 in the PISA test of 15-year-olds. Many countries participated in only one or two of these assessments, but the U.S. took part in all three. Thus the rankings of U.S. students depended in large part on which other countries took the same test.[10]

The AIR researchers analyzed U.S. mathematics performance relative to a common set of 12 countries that participated in all three assessments.[11] When they did so, they found that 4th graders ranked 8th of 12 on TIMSS-4; 8th graders ranked 9th of 12 on TIMSS-8; and high school students ranked 9th of 12 on PISA. In other words, there was no "sharp decline" from fourth grade to high school in comparison to other countries that took all three assessments. Instead, the AIR analysis revealed "a consistent picture of overall mediocrity." AIR concluded that "in general, a country's initial grade 4 international performance is likely to be where that country ends up performing internationally for 15-year-olds. Thus, countries that want to improve their mathematics performance should start by building a strong mathematics foundation in the early grades."[12]

Common sense suggests that the AIR conclusion is right and confirms Florida policymakers who have emphasized the importance of addressing the problems of the middle schools. Achievement in middle school depends on the establishment of a strong foundation of knowledge and skills in the elementary grades, and achievement in

10. Ibid., p. iv.

11. These 12 countries, including the United States, were Australia, Belgium, Hong Kong, Hungary, Italy, Japan, Latvia, Netherlands, New Zealand, Norway, and the Russian Federation.

12. Ibid., pp. iv, 9.

high school relies on a strong foundation of knowledge and skills built in the elementary and middle school years.

Many Students Enter High Schools with Inadequate Preparation

Indeed, the indictment of the high school as the weak link of K–12 schooling is dubious on its face. The facts cited by the Florida Department of Education demonstrate that—even though many children are making important gains in the early years—*a significant proportion of students begin high school with very inadequate skills in reading and mathematics*. In 2005, more than 40 percent of students in 9th grade scored below level 3 (grade level) in mathematics and 63 percent scored below grade level in reading (there was some improvement in these numbers in 2006, but achievement was still well below the performance of students in the elementary grades).[13] Certainly no program or policy in the high school, which these students have only just entered, caused these poor scores. These large numbers of students enter high school in Florida without the ability to do the work that high schools normally expect.

The question that is at the forefront of public discussion in Florida is why so many students start high school without the skills and knowledge needed to succeed. In their report of February 2006, Florida's High School Reform Task Force recognized that the facts of the current situation are complex and demand multiple reforms. One of its 15 recommendations proposes that "to ensure the foundation of academic skills in middle school, [the state should] require minimum core course completion . . . to exit grade 8 or enter high school." Another recommendation proposes that the state "provide summer academies that give intensive intervention/remediation between grades 5/6, 6/7, 7/8, and 8/9 as needed as a condition for promotion and credit recovery in high school," with particular attention on the tran-

13. *High Standards, High Performance*, op. cit., p. 17.

sition from grade 8 to grade 9. Other important recommendations address the need to set higher goals for many students by recognizing differentiated levels of proficiency and encourage students to enroll in such programs as Advanced Placement and International Baccalaureate.

Governor Bush's 2006 Reform Package

In February 2006, Governor Jeb Bush and Lt. Governor Toni Jennings offered a series of proposals to improve both middle schools and high schools, while creating a strong program for career education and workforce certification. Their program includes:

1. Intensive reading instruction for students in middle school and high school who read below grade level on the Florida Comprehensive Assessment Test (FCAT);
2. Curricular requirements for graduation from middle school (three credits each in language arts, math, science, and social studies);
3. Summer school for students who are struggling academically in grades 5 through 9;
4. Expecting students to select a major or minor area of study in high school, in addition to their core curriculum requirements;
5. Revising the high school diploma to recognize different levels of proficiency, thus encouraging able students to pursue honors courses;
6. Offering an individualized, computer-based program that enables students to set their goals, figure out what they need to study to reach those goals, and to see their progress towards their goals;
7. Providing career and vocational programs that lead to workplace certification for students who wish to enter the workforce after high school.

On June 5, 2006, Governor Jeb Bush signed into law HB 7087, known as the A++ Education Reform program. This legislation includes the following:

1. New requirements for promotion from middle school to high school are established. Students will be required to complete at least three courses in English; three courses in mathematics; three courses in science; three courses in social studies; and one course in career and education planning. All middle schools will be required to offer at least one high school level mathematics course, presumably to challenge advanced students and encourage them to earn high school credits. Hopefully, the state will recognize that course completion by itself will not necessarily lead to better prepared students, if the practice of social promotion in middle school remains undisturbed.
2. New requirements for high school graduation are established. Each student must complete at least four credits of English and mathematics; three credits of social studies and science; one credit of fine arts; and one credit of physical education. In addition, each student must select a major, meaning four sequential courses in specific academic subjects, the arts, career or technical education, or other areas. Students will be allowed to switch majors, to have a double-major, and to select "minors."
3. Each high school will be required to prepare a school improvement plan and to address the problem of students who have transferred in from out-of-state or out-of-country.
4. Each student will be required to complete a personalized academic and career plan during the 7th or 8th grade, using Florida's online advising system.
5. Funds are made available to districts to create career academies to prepare students for the workforce.

The expectation that high school freshmen declare a major has

garnered a fair amount of national attention; Florida is the first state in the nation to enact such a requirement. The theory behind this proposal is that students who choose a major will select courses that have a definite relationship to their interests and career goals. No one can say in advance whether or not this is a wise policy, but it is the personal view of this writer that fourteen-year-old children should not be expected to know what their career goals are and that schools should encourage them to explore new ideas and unexpected life choices. By this, I do not mean to suggest that there is no room for career and vocational education in high school. What I do believe is that young adolescents are unlikely to know what career they want to pursue, that they may well change their mind, and that all youngsters need to study a common core of academics, whether they plan to enter college or go to work after high school. High school might be a good time to learn about different careers, rather than to specialize in one that was chosen in the freshman year of high school. History shows that schools have a poor track record of knowing what kinds of jobs will be available five or ten years into the future, particularly when the nature of work continues to be redefined by technological changes.

Underlying much of the conversation about high school reform is the understandable and worthy desire to raise the aspirations of young people in Florida's schools across the spectrum: to encourage all students to make plans for their postsecondary goals; to urge all students to complete high school; to guide students to make wise decisions about careers and higher education. In its innovative use of technology to help students plan their academic goals and career paths, the state's public schools have certainly led the way. Any student can go online and see what courses he or she must complete to meet specified goals. In its determination to get students off to a strong start in elementary school, the state has undoubtedly made significant progress, as demonstrated by positive results on the rigorous National Assessment of Educational Progress, where Florida's fourth-grade students made significant gains in reading and mathematics from the late 1990s to 2005.

The Weakest Link in Florida's School Reforms

Florida has seen remarkable improvement in the early elementary grades and a puzzling, persistence of mediocre performance in middle school and high school. If one seeks answers to this puzzle, it seems apparent that the weakest element in Florida's program of school reform is its curriculum frameworks, which set the standards for the state's schools. This is not an insignificant matter, because the curriculum framework defines the state's goals for instruction, describes what teachers will teach and what students are expected to know and be able to do. A strong, coherent curriculum framework will ensure that every teacher knows what is expected of him or her, and that students across the state will gain access to a rich sequential curriculum.

However, in the absence of strong curriculum frameworks, the state cannot provide a coherent instructional program. What students learn will depend on which teacher they happen to have, which school they attend, and which neighborhood they live in. Some students will get the solid educational foundation that they need, others will not.

The only independent review of Florida's curriculum frameworks was conducted in recent years by the Fordham Foundation, which periodically commissions reviews of state standards and frameworks in every subject area.[14]

Here is what the Fordham reviewers said about Florida's curriculum frameworks.

The science standards received a grade of "F." The reviewers—led by Professor Paul R. Gross, University Professor of Life Sciences

14. In the spring of 2005, the English Language Arts standards were reviewed by the Council for Basic Education (now defunct), the College Board, and the International Center for Leadership Education. This review made recommendations that are consonant with those in the present paper: That Florida's English Language Arts standards should be more specific and organized by grade level. Revisions are currently underway.

(emeritus) at the University of Virginia, said that the standards are "sorely lacking in content," vague, and riddled with errors. The reviewers noted that "There is little in the way of useful guidance for teachers or others toward appropriate content in the biological sciences and especially in the history of life and the basic mechanisms of change." One reviewer pointed out that the treatment of chemistry from K–8 was meager, and "even less is required in 9–12."[15]

The mathematics standards received a grade of "F." The reviewers—led by Professor David Klein, a mathematician at California State University at Northridge—were especially critical of the state's heavy emphasis on calculators and technology as early as 2nd grade, which they believe undermines students' number sense and arithmetic. Course outlines for advanced topics like analytic geometry and trigonometry, they said, were "little more than a hodge-podge of topics thrown together without cohesion—and are highly redundant from one course to the next."[16]

The history standards received a grade of "D." The reviewers—led by historian Sheldon M. Stern, formerly chief historian at the John F. Kennedy Library in Boston—found that the standards had some solid historical benchmarks, but that the document lacked coherence and clarity about what is included at each grade level and in what sequence. He concluded that "until Florida's guidelines are organized more clearly and made both more complete and more specific, there is little reason to believe that its students can actually reach them."[17]

15. Paul R. Gross, Ursula Goodenough, Lawrence R. Lerner, Susan Haack, Martha Schwartz, Richard Schwartz, Chester E. Finn, Jr., *The State of State Science Standards* (Washington, D.C.: Thomas B. Fordham Institute, 2005), p. 34.

16. David Klein, Bastiaan J. Braams, Thomas Parker, William Quirk, Wilfried Schmid, W. Stephen Wilson, Chester E. Finn, Jr., Justin Torres, Lawrence Braden, Ralph A. Raimi, *The State of State Math Standards* (Washington, D.C.: Thomas B. Fordham Foundation, 2005), pp. 52–54.

17. Sheldon M. Stern, Michael Chesson, Mary Beth Klee, Luther Spoehr, *Effective State Standards for U.S. History: A 2003 Report Card* (Washington, D.C.: Thomas B. Fordham Institute, 2003), pp. 33–34.

The reading and language arts standards received a grade of "C." The reviewer was Sandra Stotsky, former deputy superintendent for instruction and assessment in Massachusetts. Stotsky reviewed not only the standards document, but also the FCAT specifications and rubrics. She found them to be written in clear prose, but was concerned that "they do not point to any culturally or historically significant authors, literary works, literary periods, or literary traditions. . . ." She recommended that the state "needs to work out some content-rich and specific standards" to add selective lists of authors and titles to its standards; these very significant ingredients of an education in the English language arts are still missing from the current standards/frameworks.[18]

The absence of content in the English language arts curriculum is particularly troubling in light of the fact that on the very first page of the document the Department of Education notes that its previous document was reviewed by several external organizations (the Council for Basic Education, the College Board, and the International Center for Leadership Development) that advised "focusing on the essential knowledge needed for students in each grade level."[19] Yet the document nonetheless is heavy on skills and devoid of any knowledge that one would glean by reading important works of literature and significant non-fiction.

Why Standards and Curriculum Matter

Fortunately, Florida is now beginning to review and revise its curriculum frameworks. Now is the time to align its standards with the best in the nation, and to be sure that Florida's students and teachers have the benefit of excellent standards.

18. Sandra Stotsky, *The State of State English Standards* (Washington, D.C.: Thomas B. Fordham Foundation, 2005), pp. 37–38.

19. Sunshine State Standards, *Reading and Language Arts* (Tallahassee: Florida Department of Education, 2006).

Some might say, "Well, what difference does it make if the frameworks and standards are vague so long as we have good teachers?" It does matter. These documents set the stage for the state's assessments. They establish a floor and sometimes a ceiling with reference to what will be taught and learned. They are a guide for current and future teachers. They operate on the same pedagogical basis as programs such as Advanced Placement and International Baccalaureate: They define a syllabus, which is known to teachers and students, and then serves as the basis of instruction and examination. Absent a clear and coherent curriculum/syllabus, teachers are left to guess about what to teach, in what sequence, and testing companies are unsure what to test other than generic skills.

E. D. Hirsch Jr.'s latest book, *The Knowledge Deficit*, argues persuasively that a knowledge-rich curriculum is critical if children are to make the leap from learning to read in the early grades to understanding the materials encountered in reading history, science, even mathematics textbooks in later grades.[20] A knowledge-rich curriculum provides a broad and deep array of background information that is necessary for comprehension of increasingly more demanding texts. In the absence of such a specific, sequential curriculum, children in advantaged schools and communities are far likelier to get content-rich instruction than children in disadvantaged schools and communities.

To have a first-class school system, as Florida aims to have, it should have the kind of curricular ambitions that other states admire and seek to emulate. As the reviews just cited show, Florida does not now have that status. No state revising its curriculum today would look to Florida as a model; instead, depending on the subject area, they are likely to turn to frameworks adopted by Massachusetts, California, Indiana, or Alabama.

The principal recommendation of this paper is that the state must

20. E. D. Hirsch Jr., *The Knowledge Deficit* (Boston: Houghton Mifflin, 2006).

ensure that its ongoing revision of the curriculum frameworks focus on the essential knowledge, not just the skills, that are required for stronger academic performance by all K–12 students across the state. These frameworks can then serve as the basis for teaching, professional development, teacher education, textbook development, and testing. They will also enable students to make the leap from being able to read competently in 4th grade to being able to comprehend increasingly complex material in later grades.

If students arrive in 9th grade well-prepared in reading, writing, mathematics, science, history, civics, and geography, they will be ready for high school work, and the state will be positioned to sustain the strong momentum that has been established for children in the early elementary grades. With a strong foundation, students will have the capacity to make intelligent choices about whether to prepare for postsecondary education or for a career. For these reasons, the best way to reform the high school is to improve the quality of education that all children receive in elementary and middle schools. If that happens, most of the current problems of the high schools will be far more manageable and far easier to solve.

With a well-defined, coherent curriculum from K–12 in the major areas of study, the state will have a strong foundation for improving student achievement in elementary school, middle school and high school. As a result, it will be well-positioned to implement the academic and vocational reforms that the legislature enacted and Governor Bush signed into law.