



Miami-Dade County Public Schools

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# INFORMATION CAPSULE

## Research Services

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### Need for Secondary School Reform

#### At A Glance

This Information Capsule addresses recent education literature concerning the need to reform secondary schools. Several reports included in the review were originally published by Achieve, Inc., a nonprofit and bipartisan organization created by governors and business leaders around the country. The majority of the reports pointed to what is considered an urgent need for national reform of secondary schools, particularly high schools. Also provided are recommendations formulated by notable organizations and authors addressing specific secondary school reforms.

A consensus has developed in the literature that high school students graduate with a diploma but are essentially unprepared for the challenges they meet in college and at work. This is the sentiment expressed in the following quote from Achieve, Inc., a bipartisan, non-profit organization created by the nation's governors and business leaders that assists states in raising academic standards and in improving assessments.

“Although students and their parents believe that a high school diploma reflects adequate preparation for the intellectual demands of adult life, the reality is that across the United States, students can earn one without mastering the knowledge and skills they need to succeed after graduation. As a result, too many American youth leave high school with a diploma in hand but largely unprepared for the opportunities and challenges that await them in college and the workplace.” (Achieve, 2004, p. 5.)

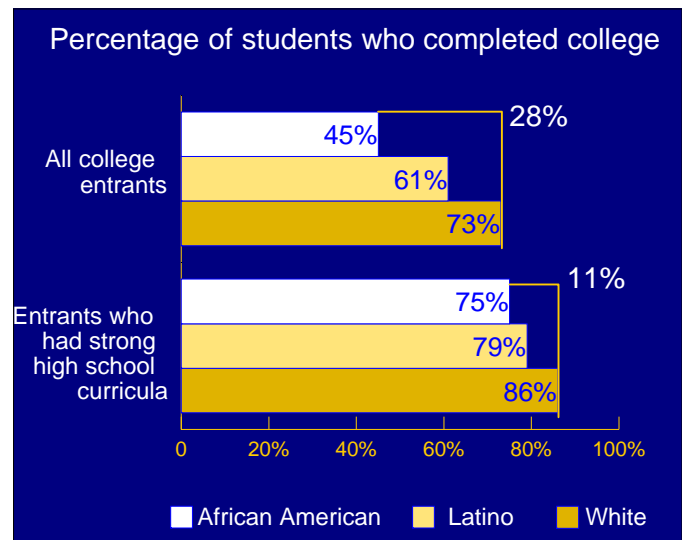
The mandate to reform secondary schools has come from a variety of sources, including the Bush administration, numerous governors, various educational think tanks, and even from Bill Gates (Ravitch, 2005). The recently confirmed U.S. Secretary of Education, Margaret Spellings, has told a state education panel in Maryland that the nation should overhaul its high schools by making courses more rigorous and requiring routine testing of all students (Bowie, 2005). Secretary Spellings supported her comment with nationwide data indicating that only 68 percent of students graduate from high school in four years and only 18 percent complete college. Therefore, she reasoned that our country will no longer be able to compete globally unless something is done.

Obviously, this is not only a local concern for Miami-Dade County, but rather, it is a national challenge. In a 2004 report entitled, *The Expectations Gap: A 50-State Review of High School Graduation Requirements*, Achieve, Inc. concluded that an important contributing factor to this dilemma was that, “No state requires its graduates to take the courses that reflect the real-world demands of work and postsecondary education” (p. 3).

The Achieve, Inc. report emphasized that every high school student should take four years of challenging mathematics, including Algebra I, Geometry, and Algebra II. Data analysis and statistics should also be part of the high school curriculum. In addition, every student should take four years of English at grade level, and the additional courses of literature, writing, reasoning, logic, and communication skills. Although the nations’ high schools provide the option for students to take rigorous courses, less rigorous courses are generally required for graduation. The Achieve report provided the following examples. In mathematics, 13 states require two years, 24 states require three years and just five states (i.e., Alabama, Arkansas, Mississippi, South Carolina, and West Virginia) require all students to complete four math courses for graduation. Almost half or 22 states do not specify which math courses students need to take.

The report also emphasized that there is a strong association between taking academically demanding courses in high school and later success in college and in the workforce. Adelman (1999) found, the higher the level of math students took in high school, the more likely they were to graduate from college (see chart). In addition, 84 percent of the employees holding high-paying professional jobs had taken Algebra II or higher math in high school. Therefore, Algebra II was seen as a gateway course in today’s “knowledge-based economy.”

Taking academically demanding courses in high school appears particularly important to students from disadvantaged backgrounds. In 2004, a U.S.



Source: Achieve, Inc. 2004. Adapted from Adelman, *Answers in the Toolbox: Academic Intensity, Attendance Patterns, and Bachelor’s Degree Attainment*, June 1999 Office of Educational Research and Improvement, U.S. Department of Education.

Department of Education Study found that the gap in college completion rate between white students and Black and Hispanic students was cut in half when the latter students took a rigorous high school curriculum that included Algebra II (Center for State Scholars, 2004). The study also indicated that students from disadvantaged backgrounds were less likely to take a rigorous high school curriculum when compared to white and Asian students. While 69 percent of Asian students, and 47 percent of white students completed a math course beyond Algebra II, only 31 percent of Black students, and 31 percent of Hispanic students took such courses.

An examination of local data found that, although there has been an increase of 33 percent in the number of M-DCPS students enrolled in Algebra II during the past five school years (i.e., 1999-00 to 2003-04), approximately 18 percent of 9-12 students enroll in Algebra II during any given academic year. Among these students, approximately 67 percent earn a grade of “C” or higher. Additionally, only nine percent of 9-12 grade students enroll in a mathematics course beyond Algebra II. Twenty percent of the M-DCPS students enrolled in mathematics courses beyond Algebra II were Black, 19 percent white, and 55 percent were Hispanic. In comparison to their numbers districtwide, Black students were under

represented and white students over represented in such courses. A detailed examination of course-taking patterns of 9-12 grade M-DCPS students will be addressed in an upcoming Research Brief.

Achieve, Inc. (2004) also reported that when minority students were required to take rigorous college-preparatory courses, they rose to the occasion. For a four-year period from 1998 to 2002, test scores for Black 11<sup>th</sup> grade students in the San Jose Unified School District in California increased seven fold compared to Black students statewide when the former were required to take a demanding curriculum required for admission to the University of California system.

### College-Bound Students

No one can deny that high level math and English skills are essential for high school graduates. Nationwide estimates range from 30 to 40 percent of entering freshman students being required to take remedial courses prior to enrolling in college-level work. Miami-Dade Community College indicated approximately 15 years ago that 64 percent of all tested first-time-in-college students from M-DCPS were required to take college preparatory courses in one or more areas (Vorp, 1989). In fact, 27 percent of the top 20% of the M-DCPS graduating class tested into developmental or pre-college courses. In addition, more than half of the top 20% of the graduating classes from four M-DCPS senior high schools were required to take at least one college preparatory course. Although more recent data are not available and high school students in M-DCPS have made improvements in their preparation for college, there is no reason to suspect that this situation has been eradicated since Miami-Dade Community College conducted this study more than 15 years ago. Therefore, this is not a new problem but rather one that has confronted the District for a substantial period of time.

### Reform Recommendations

At present, good jobs in today's "knowledge-based economy" require more math and English skills as well as some form of post secondary training to be successful. In this regard, Achieve,

Inc. (2004) recommended the following principles to guide the reform of secondary schools.

- Require all students to take a common college- and work-preparatory curriculum in math and English.
- Pay attention to content, not just course titles.
- Align academic standards in high school with the knowledge and skills required for college and workplace success.
- Provide clear guidance on essential courses and allow flexibility for instructional approaches.
- Encourage students to go beyond the core and to earn post secondary credit while in high school.
- Monitor results by tracking student achievement from K-12 through post secondary education and use the data to improve the rigor of course offerings.

### Career-Oriented Students

Although Achieve Inc. has not excluded the career-oriented student from the above formulations, the work of the Southern Regional Education Board addresses these students specifically. Career-oriented students are those who enter the military, enroll in a community or technical college, or become employed upon graduating high school.

High Schools That Work (HSTW) was formulated by the Southern Regional Education Board in 1987. The purpose of the program was to improve the academic achievement of high school students by encouraging them to take academically demanding course work. Progress exams have been taken by participating high schools every two years since 1988. Such exams have documented course-taking patterns and their effect on student achievement which has led to a series of recommendations to reform secondary schools. Bottoms (2002) provided the following

recommendations in *Raising the Achievement of Low-Performing Students: What High Schools Can Do*.

- Align federal, state and local goals, policies, and resources to achieve comprehensive school improvement.
- Get assessment and accountability systems to focus on school and classroom practices that work best for advancing the achievement of all groups of students.
- Develop the capacity of current and aspiring leaders who can address the core functions of the school that affect student achievement.
- Make proven research-based conditions and practices the underpinnings of academic and career/technical studies in high school.
- Improve transition from middle grades to high school and from high school to postsecondary education.
- Address the critical shortage of teachers in some discipline fields and prepare a new generation of career/technical teachers.
- Refocus career/technical education to prepare high school graduates with a strong academic foundation and high levels of technical literacy.
- Expand access to quality career/technical programs, especially in communities with some of the most pressing needs.

In an open letter to the governors of the 50 states, the National Association of Scholars has presented an alternative proposal for reform in secondary schools (Stotsky, 2005). The proposal included the following recommendations.

- Academic achievement should be promoted as the first priority. All students should be expected to make a reasonable effort to take advantage of the educational opportunities available to them.

- Students entering ninth grade should be given a choice to pursue either a traditional college preparatory curriculum or a technical, career oriented course of study.
- All students should be required to take a core curriculum of four years of English and at least three years of mathematics (algebra, geometry, intermediate algebra II, and/or trigonometry and pre-calculus). Math instruction should also include practical topics such as financial mathematics, probability, statistics, and data analysis. Three and one-half years of history and three years of science, with courses addressing biology, chemistry, and physics, were also recommended. The technical program should include technologically rigorous programs and apprenticeships.
- Teachers of core subjects should have academic majors and a degree in the subject they teach. Differential pay should be available to hire and retain hard-to-get science and mathematics teachers.
- All high schools should have a longer year and school day. High schools should house a minimum of 500 students in order to provide the necessary curriculum content and services and not be dependent upon a small number of administrators and teachers to keep the school functioning appropriately. Schools should provide for grade-level houses or academic study groups.
- The principal should have fiscal and managerial autonomy to control his/her budget and should be held accountable for how money is spent. The principal should also be able to hire teachers he or she wants.
- Remedial courses in reading and mathematics should be available based on placement tests for entering students. Accelerated completion should be allowed and encouraged for students capable of advanced work.

- Students should be required to pass end of course exams that are based on state standards in 10<sup>th</sup> and 11<sup>th</sup> grades for core curriculum courses. Strong consideration should be given to requiring passing 12<sup>th</sup> grade exit tests prior to granting diplomas.

### Stakeholder Opinions

The final report reviewed in this Information Capsule regarding secondary school reform, is a national survey research study conducted for Achieve, Inc. by Peter D. Hart, Research Associates/Public Opinion Strategies (2005). This report examined opinions from four groups of respondents including recent high school graduates, college students, college instructors, and employers. The latter group included 400 employers responsible for making personnel decisions (i.e., owners, CEOs, presidents, and human resource officers).

Results indicated that approximately 40 percent of the recent high school graduates surveyed responded that there were gaps in the high school education they received and the skills and work habits required of them in college and at work. In fact, only 14 percent of the college students surveyed responded that they felt prepared in all six academic areas examined (i.e., oral communications, science, mathematics, research, writing, and reading). Almost half of the students (46%) were required to take at least one remedial class upon entry to college. Approximately half of the recent graduates that did not go on to college after graduating high school indicated that high school “left them unprepared for the work habits expected in the work force” (p. 5).

The employers estimated that 39 percent of recent high school graduates were unprepared for entry-level jobs and an even larger proportion (45%) were unprepared for advancement beyond entry-level jobs. In addition, approximately two out of five employers were dissatisfied with graduates’ ability to read and understand complicated materials, to think analytically, and to communicate orally.

The college instructors reported having to “spend a significant amount of time teaching material that they felt should have been learned in high school” (p. 2). The college instructors were said to be the harshest critics as they expressed dissatisfaction with the students’ preparation particularly in mathematics and writing. Eighty percent of the college instructors agreed that requiring an exit exam at the conclusion of high school and a more rigorous curriculum would improve students’ ability to complete college-level assignments.

The college students interviewed for the study also reported that knowing what they know now, they would have selected a more rigorous high school curriculum and would have worked harder. Approximately 65 percent of the college students and 71 percent of the non-college students indicated they would have worked harder in high school if they had to do it over again.

### Conclusion

There is a national call for secondary school reform. The mandate comes from the nation’s political leaders, governors, and even high school graduates themselves. Several recent reports published by Achieve, Inc. are reviewed that highlight this need for reform. Although these data come from national studies, findings are still relevant to Miami-Dade County. For instance, the finding that taking rigorous courses in high school is related to college success and higher paying jobs is a finding to which all school districts throughout the nation can relate. Although M-DCPS requires high school graduates to complete three years of mathematics, four credits in mathematics are recommended (i.e., Algebra I, Geometry, Algebra II, and Pre-Calculus). Relatively few students complete courses such as Algebra II and beyond. Additionally, the students’ surveyed in a national study claimed they would have worked harder in high school had the academic requirements been more rigorous. This student sentiment alone confirms the need for an increased commitment toward secondary school reform in Miami-Dade County.

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