

Research & Occasional Paper Series: CSHE.13.04



UNIVERSITY OF CALIFORNIA, BERKELEY
<http://ishi.lib.berkeley.edu/cshe/>

“RIGOROUS COURSES” AND STUDENT ACHIEVEMENT IN HIGH SCHOOL: AN OPTIONS PAPER FOR THE GOVERNOR OF CALIFORNIA *

August 2004

Robert Shireman

Visiting Scholar, Center for Studies in Higher Education, UC Berkeley
Director, The Institute for College Access and Success (TICAS)

Copyright 2004 Robert Shireman, all rights reserved.

ABSTRACT

Holding schools accountable for student achievement can only work if the goals are clear. California’s school standards are well-regarded nationally for their clarity and their rigor, but it is not clear what courses students are expected to take beyond the minimum graduation requirements. The paper discusses the relatively successful efforts to encourage students to take higher-level courses in high school in two states, Indiana and Texas; it outlines potential stumbling blocks in these efforts; and it suggests three options for California: (1) Do not focus specifically on higher-level course-taking; (2) Propose legislation to raise the minimum courses required for graduation; and (3) Use the bully pulpit to encourage higher-level course-taking in high school.

The purpose of an education accountability system is to focus school leaders and teachers on helping more of their students gain the skills and knowledge that they need for success in life and as citizens. At the elementary school level, while there continue to be disagreements over methods, there is no argument about the need for all students to be proficient in reading, writing and mathematics. Though we have a long way to go, we have seen progress: as a result of standards and testing regimes, elementary schools are focused more on bringing all students to proficiency, and California kids’

* An earlier version of this memo was prepared as an exercise for a high school reform workshop sponsored by the Aspen Institute’s Program on Education and Society. It has not been presented to the Governor.

scores on the state exams and on the nation's report card (known as NAEP, or the National Assessment of Educational Progress) are up.

Beyond elementary school, however, progress has been slower. One-third of California high school students drop out. High school scores on standards-based exams have grown at half the rate of elementary schools. And whether you look at dropouts or test scores, our Latino and African American students fare much more poorly than our White and Asian students.

Holding schools accountable for student achievement while giving them flexibility in how they get there would seem to promote an effective, professional approach. But this approach can only work if the goals are clear. While elementary teachers can hardly argue with the need to help all students to read proficiently, at the secondary level there is less of a consensus about the purpose of high school. This is especially true for students at urban and low-performing schools. This lack of agreement exists both at the macro policy level, as well as in the schools themselves. Various players point to different markers for student progress. Which goal(s) are we holding high schools accountable for?

- Enrollment or success in college-prep courses (in California, this is a list of courses known as "A to G");
- Advanced Placement;
- Job readiness (defined how?);
- Passage rates on the high school exit exam (about an eighth grade skill level);
- Achievement of the state's world-class standards and the tests that are aligned with them.

Apart from these possible goals, some would say that just getting students their diplomas—preferably without a detour to jail or a maternity ward—is a worthwhile goal, and anything else is gravy.

California's school standards—a compendium of what students should know and be able to do—are well-regarded nationally for their clarity and their rigor. The newspaper *Education Week*, which is not viewed as having a political agenda on education issues, gave California a "B" on its standards and accountability system, and noted that the state is one of only seven that have clear and specific standards at the elementary, middle, and high school levels for English, mathematics, science, and social studies/history. The test-supportive, conservative Fordham Foundation and the test-suspicious Princeton Review both have rated California's standards highly.

But while the standards may be of good quality, in high school the examinations that students take depend to some degree on the courses that they have taken. And it is not clear what courses students are expected to take beyond the minimum graduation requirements.

The benefits of a demanding course of study in high school

Students who complete rigorous coursework in high school have more—and better—options after high school graduation. They are better equipped to advance to higher education, succeed in workplace and military training programs, and/or resume their

education in preparation for a career change at a later date. A solid academic foundation in high school benefits every student, regardless of ethnicity and socioeconomic status. Students from lower-income families tend to derive the greatest benefit from a rigorous course of study.

The evidence suggests that higher-level mathematics has the strongest impact on future success in the workplace and in college. The Public Policy Institute of California has determined that this effect is not simply correlation (students who do well in math do well in life) but that taking the courses has a causative effect on doing well later. Furthermore, PPIC found that it is not enough to encourage "more" math, but it is critical to get students into more advanced math at or above the algebra/geometry level.

But in the high schools that serve low-income and minority youth, there often is little attention to rigorous, standards-based instruction—except for the minimal (8th grade) skill levels represented by the exit exam (which now require very basic algebra but nothing beyond that). Of those students who graduate, only about a third complete the A-G courses with a grade of C or better, a number that has been flat over the past six years. At schools serving low-income and minority youth, sometimes only a handful of students take the A-G courses.

Efforts to raise high school expectations

Over the past several years, a number of states have made a concerted effort to encourage students to take higher-level courses in high school. At the federal level, the Bush Administration is supporting the efforts of the Center for State Scholars, a Texas-based organization that assists states in branding and promoting a "scholars" course of study. Those recommended courses—similar to our A-G courses—are compared below to our minimum graduation requirements.

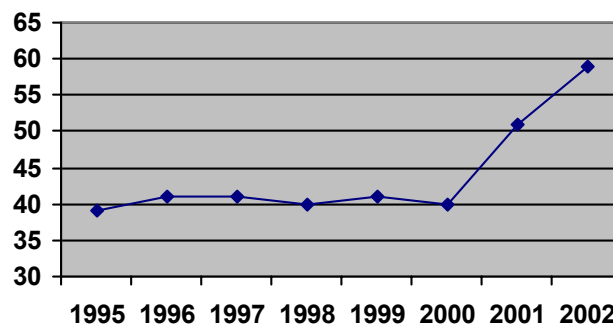
| | California's minimum graduation requirement | Bush-endorsed curriculum (Center for State Scholars) |
|------------------|------------------------------------------------------|------------------------------------------------------|
| Mathematics | 2 years: →algebra I | 3 years: →algebra I →geometry →algebra II |
| English | 3 years | 4 years |
| Science | 2 years, including biological and physical sciences. | 3 years: →biology →chemistry →physics |
| Social Studies | 3 years: →U.S. →world →½ gov't → ½ econ | 3½ years, including economics |
| Foreign Language | 1 year or 1 year of visual or performing arts | 2 years |

Not all of the efforts to promote more rigorous course-taking have gone well. In Oklahoma, the governor faced major opposition when he promoted a "4 by 4" plan that

would have raised the state's graduation requirements to include four years of math, English and science (more on the political and practical difficulties in the next section). Two states where efforts have gone relatively smoothly are Indiana and Texas. Their efforts are described briefly below.

Texas. Curriculum efforts in Texas began with one school district, where a community-business coalition set up a program to give special recognition to graduates who took a particular set of higher-level courses at the high schools. In 1992, the Texas Business & Education Coalition (TBEC) expanded that local program by creating the Texas Scholars Program. TBEC trained business leaders to make presentations to eighth graders, giving them advice on how to do well in high school and beyond. In 1993, the Texas legislature adopted the Scholars courses as the "recommended" curriculum, and in 2000 the recommended curriculum became required for students wishing to receive a Texas state grant for college. Starting with entering high school freshmen this fall, the Scholars/recommended curriculum is the default expectation for all students (this policy was enacted in 2001, applying it to that year's sixth graders). In other words, a student is enrolled in that set of courses (at a minimum) unless the student, his or her parents, and his or her counselor agree that a lower level curriculum (down to the minimum) is advisable.

Texas Students Graduating with the Scholars Curriculum or Higher



With these policy and community efforts, the number of students graduating with the higher-level courses grew from about 40 percent to about 60 percent.

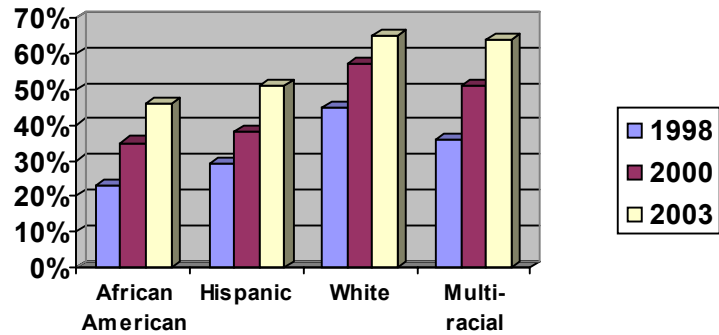
However, if schools just change the names of the courses, we will have achieved nothing—students will not have learned anything more. What evidence is there that the course content is actually more rigorous, and that students are mastering it? Unfortunately, there is not much data that sheds light on that question. Scores on the ACT college entrance examination have been relatively steady. But only a third of high school students take the test—most likely the third that has always been taking the higher-level curriculum. The question is whether achievement has improved for the middle third of students who are taking more advanced classes than prior cohorts of students. We continue to seek data on this question.

Indiana. Like Texas, Indiana has succeeded in getting about 60 percent of its high school graduates to take a Scholars-type curriculum or better. In the early 1990s, Indiana's business, higher education, and K-12 leaders came together to speak with one voice about what courses students need for success in college and the workforce. Deemed "Core 40," Indiana's recommended curriculum does not have the force of law. But it has been effective at moving more students to take more academic courses. In

Core 40 Diplomas by Race

1997-8 only 43 percent of students graduated with Core 40 or above. By 2002-3, the proportion had reached 62 percent. While there are still gaps in course-taking by ethnic groups, all ethnic groups have seen substantial increases in the level of courses taken by their high school graduates. Students taking Core 40 enter and

graduate from college at significantly higher rates than students without this preparation. Indiana, like other states, also has found that rigorous course-taking in high school can overcome a variety of socio-economic disadvantages, including poverty and low levels of parental education.



As in Texas, ACT scores in Indiana have not changed substantially (and only a fifth of the students take the ACT). SAT scores have risen 30 points over the past decade (1993-2003), better than the 23 points nationally. As with Texas, we are seeking better indicators of whether there are academic gains deeper in the school population in Indiana and other states and districts that have increased enrollment in higher-level courses.

Things that can go wrong

Promoting and implementing a more demanding list of high school courses does not automatically bring school improvement. There are a number of potential stumbling blocks that can make the effort less than constructive, or even counter-productive.

Rigorous course names do not guarantee rigorous course content. If all that schools do is to change the names of the courses they offer, the students will not achieve any more than they had before. The University of California system requires schools to submit their curriculum plans, and it approves courses that meet the A-G requirements. But state law prohibits the State Board of Education from providing any detailed curriculum guidance at the secondary school level. Therefore, besides going along with UC's judgment, the state testing system is perhaps the only indicator of what is actually being taught effectively.

Clearer course content does not necessarily improve teaching. An accurate criticism of the various efforts to push higher-level course-taking is that it is the instruction in the classroom that needs to be improved. Recent evaluations of high school reforms funded by the Gates Foundation underscore this reality: schools are struggling to implement instructional approaches "that are effective for the diverse needs of their students." In some cases, they are torn between what they see as innovate methods built around "projects" and the content and skills requirements of college admissions requirements and graduation exams. These struggles sometimes lead to demands for separate classes for high-achieving students.

Many factors influence student engagement with the curriculum. There are two sides to learning. Teachers control the “what” and the “how.” But it is up to the students to decide if they will respond and engage themselves. That’s why so many high school reform efforts are focused on making the curriculum “relevant” through career themes, and creating stronger relationships within schools. To the extent that an academic press seems to be undermining career and hobby interests, student engagement can be undermined.

60 percent is not “all.” In Texas and Indiana, 60 percent of the high school graduates take the higher-level curriculum. The remaining 40 percent have taken courses that probably do not prepare them for anything more than a minimum wage job, if that. And that says nothing about the students who do not complete high school at all. While there is not any indication that a push for rigorous courses increases dropouts, there is also no indication that it reduces them.

Political backlash. It is easy for newspaper columnists to ridicule “academic” classes as having no connection to the real world. One columnist in Sacramento has called those who have suggested that all students take the A-G curriculum “college elitists” and their idea “a fantasy constructed by academic theorists.” Advocates have taken to distributing copies of Algebra II equations, citing people who have succeeded without it and asking rhetorical questions about its relevance to life.

It is easy to get into the wrong arguments. For example, a common reaction is to ask whether there will be enough seats at the colleges and universities for students who have taken the college-prep courses. But the question of our state investment in higher education should have no bearing on whether we try to get better outcomes from our high schools. Nonetheless, this is a concern and argument that comes up frequently; essentially they are saying, “we can’t improve high schools because there’s no room in the colleges.”

Finally, teachers of some vocational classes argue that students are being denied the opportunity to learn a career and to bring “relevance” to their high school education. But the most effective vocational programs are the ones that include high-level math, science, and English skills. Work does need to be done, however, to ensure that the system allows for—and encourages—creative connections between career training and academic content.

Options

1. **Do not focus specifically on higher-level course-taking.** Focus on teacher training, and on school accountability linked to the high school exit exam and the standards-based exams.
2. **Propose legislation to raise the minimum courses required for graduation.** Some of the possible approaches:
 - a. Add a year of English, math, and perhaps science, without identifying the particular courses.
 - b. Adopt the universities’ “A through G” courses, which means Algebra II and lab sciences for all students, and two years of foreign language.

- c. Work with a business-led coalition to develop a recommendation for high school courses.

Whichever approach is adopted, link it to the recruitment and professional development of teachers, as well as to the school accountability system.

3. Use the bully pulpit to encourage higher-level course-taking in high school.

See options a-c above. For option c, one example would be a "Take Ten" campaign that would encourage students to take four years of English, three years of math (up to at least Algebra II), and three years of science. We would want to link these goals to the recruitment and professional development of teachers, as well as to the school data collection and accountability system.