



Michigan Scholars Data Points

We've got a problem: Many high school graduates are unprepared for college courses or good jobs.

- 90% of high school seniors expect to attend college. (Barbara Schneider and David Stevenson. 1999. *The Ambitious Generation*. New Haven and London: Yale University Press. p. 5.)
- 7 out of 10 students graduate without completing the courses needed to succeed in college or the workplace. (U.S. Department of Education, NCES Digest of Education Statistics 2000, Table 142.)
- Of those who go on to college, 49% require remedial courses. Students who must take remedial courses are less likely to earn a degree. (Clifford Adelman, U.S. Dept. of Education, *Answers in the Tool Box*, 1999)
- By the end of the decade we will face a shortage of 12 million qualified workers for the fastest-growing sectors of the job market. ("Occupational Employment Projections to 2010," *Monthly Labor Review*, November 2001, Bureau of Labor Statistics, U.S. Department of Labor.)
- Businesses cannot find enough qualified workers to fill positions
 - 59% report "Poor Basic Employment Skills"
 - 26% report "Inadequate Math Skills"
 - 32% report "Poor Reading/Writing Scores" (*National Association of Manufacturers, "Skills Gap 2001."*)

Corollary

Disadvantaged populations are disproportionately unprepared.

- One half or fewer of African American and Latino high-school students complete Algebra 2 compared to nearly two-thirds of their White and Asian peers. (CCSSO, *State Indicators of Science and Mathematics Education*, 2001.)
- Non-White students are half as likely to complete a bachelor's degree as their White counterparts. (U.S. Department of Education, National Center for Education Statistics, *The Condition of Education 2002*.)
- By the time African-American students reach 8th grade, only 12% can read proficiently and only 7% are proficient in math. Or, as education researchers have put it, the average black high-school senior is leaving 12th grade with 8th-grade skills. By the time African-American students reach 8th grade, only 12% can read proficiently and only 7% are proficient in math. Or, as education researchers have put it, the average black high-school senior is leaving 12th grade with 8th-grade skills. (Rod Paige, July 2004)

Students who complete the Scholars Course of study are prepared for the future.

Specifically, they have:

- currency in the 21st century job market,
- a foundation for lifelong learning and earning potential, not just entry to the first job, and
- access to higher quality of life through better jobs and better pay.

Conversely, students who don't complete the Scholars Course of study are not adequately prepared.

Further, they miss a crucial window of opportunity to obtain an *affordable* academic foundation needed to participate in the knowledge economy in any meaningful way.

Program Description

The State Scholars Initiative puts business people in the classroom just before students choose their high school coursework plan. These volunteers – speaking from compelling life experience – are often better able than parents and teachers to persuade students that it is beneficial in the long run to struggle and master the basic concepts in a hard course than it is to glide through an easy course.

The Initiative works best in those communities where there is sustained business volunteer involvement over a period of several years and where incentives and recognition are offered throughout the high school career so that students stay on track to graduate as Scholars.

- ✓ 40 of the 50 fastest growing occupations will require some education after high school. ([Occupational Outlook Survey 2002-03, Bureau of Labor Statistics, U.S. Department of Labor.](#))
- ✓ Coursework is a more accurate predictor of student success than grades, test scores, or class rank, especially among minority students. ([Clifford Adelman, U.S. Dept. of Education, Answers in the Tool Box, 1999](#))
- ✓ Students who completed a more ambitious course of study scored an average of 2.6 points higher on the ACT. ([ACT, High School Profile Report, 2002. ACT compared student performance on their college-preparation exam to the academic course of study they completed. Students who complete the courses ACT defines as the “core” scored 2.6 points higher than those who completed less than the “core.” Score Scale: 1-36.](#))
- ✓ Adults with just a high school diploma are twice as likely to be unemployed as those with a bachelor's degree. ([U.S. Bureau of Labor Statistics, Occupational Outlook Quarterly, Fall 1999, “More education: Higher earnings, lower unemployment,” 1998 data.](#))
- ✓ Adults with just a high school diploma earn \$6,000 less per year than those with an associate's degree and nearly \$20,000 less per year than those with a bachelor's degree. ([Brian Zucker and Royal Dawson, “Credits and Attainment: Returns to Postsecondary Education Ten Years after High School, NCES 2001-168, Table 21.](#))
- ✓ Acquisition of knowledge and skills closes the earnings gap between African Americans, Latinos, and Whites. ([Sum, Andrew, Literacy in the Labor Force: Results from the National Adult Literacy Survey, National Center for Education Statistics, U.S. Department of Education, Washington, DC, September 1999.](#))

- ✓ African Americans and Latinos are more likely to complete a bachelor's degree if they have had a rigorous high school course of study (African American degree completion rises from 45% to 73%, Latino from 61% to 79%). ([Clifford Adelman, U.S. Dept. of Education, *Answers in the Tool Box*, 1999](#))
- ✓ A student who completes more challenging coursework learns more regardless of the student's ability. ([Hallinan, Maureen T., "Ability Grouping and Student Learning." Prepared for the Brookings Papers on Education Policy Conference: The American High School Today. The Brookings Institution, Washington, DC, May 14-15, 2000.](#))
- ✓ A recent intensive study showed that the skills and knowledge required to succeed in jobs that pay a living wage have converged with the skills and knowledge required to enter and succeed in college. ([American Diploma Project 2004](#))

Why certain courses?

For more detail, go to CenterForStateScholars.org/ (Why Scholars?)

- ✓ Completing Algebra 2 more than doubles a student's likelihood of earning a college degree at a public four-year institution compared to students who stop at geometry. ([Laura Perna and Mavin Titus, "Understanding Difference in the Choice of College Attended," April 2003.](#))
- ✓ Students who complete advanced math are 12.6 times more likely to earn a four-year degree at an in-state public institution than peers who stop at geometry. ([Laura Perna and Mavin Titus, "Understanding Difference in the Choice of College Attended," April 2003.](#))
- ✓ The U.S. Army pays a wage premium to enlisted soldiers who can speak a second language.

Implications

- ✓ State Scholars will activate other aspects of the quality education equation. Student demand for more rigorous courses should stimulate teacher development. Standardized assessments will reveal if course content is appropriate and challenging.
- ✓ State information technology systems will have to step up to the challenge of tracking student achievement data.

Businesses that recruit Scholars get workers who can help them stay competitive. By recruiting Scholars, businesses also systemically encourage more students to complete a defined sequence of rigorous academic courses (the Scholars course of study).

- ✓ The National Association of Manufacturers (NAM) reports that tool and die makers must go through four or five years of apprenticeship or postsecondary training, usually in a community college. The courses they need to enter such a program include algebra, geometry, trigonometry, and basic statistics.
- ✓ NAM reports that while a sheet metal worker's four- to five-year apprenticeship usually takes place via on-the-job training, it requires a high school diploma with geometry, trigonometry and technical courses, as well as the ability to read technical documents.
- ✓ Avionics technicians attend trade schools that require higher math, physics, chemistry, electronics and computers. ([Rose, Heather and Julian Betts, "Math Matters; The Links Between High School Curriculum, College Graduation, and Earnings," *Research Brief*, Public Policy Institute of California, San Francisco, CA. 2001.](#))

- ✓ Line installers and repairers need algebra and trigonometry. (U.S. Department of Labor, "Line Installers and Repairers," *Occupational Outlook Handbook*, 2002-2003.)
- ✓ The National Alliance of Business's survey of employers in 22 occupations found that reading ability, writing ability, research skills, the ability to synthesize information from various sources, and empathy are all important workplace skills. (Claus von Zastrow, "The American Diploma Project Workplace Study," National Alliance of Business, September 2002, unpublished report.)
- ✓ Employers want workers to know data, probability, and statistics, and be able to access higher math skills based on geometry and Algebra 2. (Claus von Zastrow, "The American Diploma Project Workplace Study," National Alliance of Business, September 2002, unpublished report.)

Implications

- ✓ When there are shortages of qualified candidates for jobs, turnover and wages increase, making it more difficult for businesses to plan and to keep good workers.
- ✓ By educating students about the importance of a sound academic high school course of study, business and community volunteers help create demand for high school reform.

Failure to engage students in the Scholars Course of study has wide-ranging consequences.

At the individual level:

- ✓ Limited career prospects in most fields
- ✓ Increased costs to students and parents for remedial coursework at the college level

At the community level:

- ✓ Increased costs communities for remedial coursework at the college level
- ✓ Fewer students completing degrees
- ✓ A less educated public to decide issues
- ✓ Shortage of qualified workers for the fastest growing segments of the job market
- ✓ Added costs to society to deal with the ramifications of lower achievement, including increased crime and decreased health
- ✓ Colleges report that almost half of all postsecondary students require remedial coursework. (Clifford Adelman, U.S. Dept. of Education, *Answers in the Tool Box*, 1999)
- ✓ In 1973, 51% of factory jobs were held by high school dropouts. In 2000, only 19% were. The proportion of factory jobs held by people with some college, on the other hand, tripled (from roughly 12% to 36%). (Anthony P. Carnevale and Donna M. Desrochers, "The Missing Middle: Aligning Education and the Knowledge Economy," for the Office of Vocational and Adult Education, U.S. Department of Education, Washington, DC, April 2002.)
- ✓ Remedial classes in lieu of courses pertaining to their degrees are a deterrent; students who start their college careers in remedial classes are less likely to complete a degree, which has profound effects on annual and career earnings. (Current Population Survey, Annual Demographic Survey March Supplement, "Educational Attainment – People 18 years old and over, by total money earnings in 2001," Bureau of Labor Statistics and Bureau of the Census, Washington, DC, March 2002.)

State Scholars is a solution because it's:

- ✓ Simple (easily replicated from district to district, with support provided by the Center for State Scholars)
- ✓ Low cost (uses existing resources in a different, more effective way; the real expense is the business community's and educators' time commitment)
- ✓ Effective (it puts business leaders with life experience in direct contact with the employees of tomorrow; business and education collaborate in addressing students' needs)
- ✓ Enables a culture of achievement
- ✓ State Scholars has "gone live" in more than 450 communities in 13 states.
- ✓ In one state, Texas, course completion rates increased between 1997 and 2001, a period during which the state population grew 8 percent:

Geometry	45.8%
Algebra 2	28.2%
Pre-calculus	54.7%
Calculus	22.7%
Chemistry	29.1 %
Physics	68.3% (Texas Education Agency, 2002)

In one state, Arkansas, the percentage of high school graduates completing higher level courses jumped in a 10-year period (1990-2000):

Geometry	from 60% to 88%
Algebra 2	from 48% to 71%
Chemistry	from 33% to 66%
Physics	from 13% to 33%

and the percentage of high school graduates going directly to higher education increased from 48% to 59%. ([CCSSO, State Indicators of Science and Mathematics Education, 2001.](#))

- ✓ In one study, teachers reported that only half their students planned to attend two- or four-year college. In contrast, 79% of the students said they were college bound. ([Metropolitan Life Survey of the American Teacher 2000: Are We Preparing Students for the 21st Century? September 2000.](#))

