
Why U.S. Students Need Incentives to Learn

In the United States, high school students, particularly the non-college bound, need to receive strong signals that taking tough academic courses and earning high marks will result in a better job, or at least a job.

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For the past two decades in America, the low level of academic achievement in our secondary schools has spelled disaster for our youth and for our economy. The statistics are alarming:

- Ninety-three percent of 17-year-olds do not have the "capacity to apply mathematical operations in a variety of problem settings" (National Assessment of Educational Progress, 1988, p. 42).

- For the last six years, an average of 28 percent of non-college-bound white high school graduates and 54 percent of black graduates had no job four months after graduating from high school (Bureau of Labor Statistics 1989, 1991).

- Between 1971 and 1988, inflation-adjusted wages fell 17.3 percent for young male high school graduates and 10 percent for young female graduates (Katz and Murphy 1990).

- Fewer than 1 percent of American high school students take Advanced Placement (AP) Chemistry or AP Physics, and only 2.3 percent took the AP calculus exam. In contrast, 25 percent of all Canadian 18-year-olds are studying science that is comparable to AP courses in the United States.

- The 1.25 grade-level-equivalent

decline in the academic achievement of high school seniors between 1967 and 1980 lowered the nation's productivity by \$86 billion in 1987 and will lower it by more than \$200 billion annually by the year 2010 (Bishop, March 1989).

American students' academic decline can be attributed in part to their correct assessment of the lack of connectedness between work and schools. They know that, too often, taking difficult courses in school and studying hard will not be rewarded in the job market. Only about 20 percent of 10th graders believe that biology, chemistry, physics, or geometry is needed to qualify for their first-choice occupation (LSAY 1988, BA24B-BA25D). Only 28 percent believe they need algebra.

A Failure to Reward Achievement

That the American labor market fails to reward effort and achievement in high school is seen in an analysis of the Youth Cohort of the National Longitudinal Survey, which indicates that during the first 10 years after leaving high school, greater competence in science, language arts, and mathematical reasoning *lowers* wages and increases the unemployment of

young men. For young women, verbal and scientific competencies have no effect on wage rates, and a one-grade-level increase in mathematical reasoning competence raises wage rates by only one-half of one percent (Bishop 1989).

Although greater academic achievement improves wages only slightly, it increases productivity very substantially. Hundreds of studies of the determinants of productivity have been conducted by industrial psychologists, and these studies demonstrate that competence in reading, mathematics, science, and problem solving are strongly related to productivity in almost all jobs.

One reason wages do not reflect productivity is that employers lack good objective information on the academic competencies of young job applicants. In a study of small and medium-size firms, only 3 percent of recently hired high school graduates had been asked to take a test assessing their competence in reading or in mathematics. Employers are aware that grading standards differ substantially across schools and courses. Consequently, most are skeptical of the usefulness and fairness of basing hiring decisions on grades received in school. This is one of the reasons that only one-fifth of the employers requested a transcript or self-report information on grades in high school.

One of the saddest consequences of this lack of objective information on young people's academic competencies is that employers with good jobs offering training and job security are unwilling to take the risk of hiring a

recent high school graduate. They prefer to hire workers with many years of work experience because their work records serve as a signal of competence and reliability. Unlike many of their counterparts overseas, high school graduates in the United States have no such record, and since information on their high school performance is frequently not available, the entire graduating class appears to employers as one undifferentiated mass of unskilled and undisciplined workers.

Educational leaders are beginning to realize that if the labor market were to begin rewarding learning in school, high school students would respond by studying harder and local voters would be willing to pay higher taxes to finance better local schools. Al Shanker has asked businesspeople to "provide clear and early rewards for those students who work hard and learn the most." And the Secretary of Labor's Commission on Workforce Quality and Labor Market Efficiency (1989) recommended that:

The business community should . . . show through their hiring and promotion decisions that academic achievements will be rewarded. . . . Schools should develop easily understood transcripts that at the request of students are readily available to employers. These transcripts should contain documentable measures of achievement in a variety of fields as well as attendance records. State governments should provide assistance to facilitate the standardization of transcripts so that they will be more easily understood (pp. 9-12).

Creating External Assessments

We are the only industrialized country in the world that does not have a system providing externally graded competency assessment keyed to the secondary school curriculum. While

Japan uses multiple-choice exams, all other nations use extended answer examinations in which students write essays and show their work for mathematics problems. Generally, regional or national boards set the exams and oversee their grading by committees of teachers. Exam grades appear on resumes, and employers ask about them on job applications. Parents in

Too often, a student's academic success is purely personal. External assessment would change this.

these countries know that their children's futures depend on how much they learn in secondary school. Hence they demand more of and are willing to pay more for their local schools than we do.

Rather than use rank in class or grades measuring performance relative to others in the classroom as our signal of students' accomplishment, we should define competency by an absolute standard in the way Scout merit badges are defined. When teachers make high-stakes judgments about student achievement, students are thrown into a zero-sum competition with one another. Explicitly or implicitly they are being graded on a curve, not relative to an external standard as prevails for Scout merit badges or the French Baccalauréat exam. American students who study hard and excel academically set themselves apart, cause rivalries, and make things worse for friends. When

we set up a zero-sum competition among close friends, we should not be surprised when most of them decide not to compete.

Different types and levels of competency should be certified. So that schools can be held accountable for the achievement of their students, measurement of student accomplishment must be fair across schools. The Certificate of Initial Mastery proposed by the Commission on the Skills of the American Workforce (1990) is one way this assessment system might be structured.

Teachers Can't Be Coach and Judge

External assessment of accomplishment can help teachers develop mentoring or coaching relationships with their students. Most mentoring relationships that students now develop in schools are usually with a coach, band conductor, dramatics teacher, debate team sponsor, year-book advisor, vocational teacher, or Advanced Placement teacher. These important but infrequent relationships develop because of the intensive multiyear interaction these teachers enjoy with a small, stable group of students, which helps create a supportive atmosphere. These teachers are coaches who help students prepare for performances or competitions, without being high-stakes judges of their performance and achievement. They give guidance and feedback while the students prepare for the game or exhibition, but summative evaluations are made by others. As a result, the mentor/coach is able to set high standards without losing the crucial role of advocate, confidant, and friend.

External assessment of accomplishment is thus crucial to the development of mentoring relationships between teachers and students. Without it, teachers' efforts to become



Students who understand the connection between school and work are willing to work harder. Here, a tech-prep student learns about work in a TV studio.

friends with their students and their parents tend to deteriorate into extravagant praise for mediocre accomplishment. In courts of law, judges must disqualify themselves when a friend comes before the bar. Yet American teachers are placed in this double bind every day. Often they resolve the role conflict by lowering their expectations or hiding a student's failure with charitable phrases such as "does good work when he chooses to participate." Other times they choose to hold students to high standards but sacrifice close supportive relationships with them.

It is these considerations that account for the strong support that teachers in European secondary schools give to externally graded exams and external reviews of a student's completed projects and practical work. When a change in this system was proposed in Ireland, the

Association of Secondary Teachers of Ireland (1990) wrote:

The introduction of school-based assessment by the pupil's own teacher for certification purposes would undermine . . . the pastoral contribution of teachers in relation to pupils . . . and the perception of teachers as an advocate in terms of nationally certified examinations rather than as judge. . . .

This would automatically result in a distancing between the teacher, the pupil, and the parent. It also opens the door to possible distortion of results in response to either parental pressure or pressure emanating from competition among local schools for pupils.

World-Class Achievement

In their jobs after school and on the football field, young people work very hard. In these environments they are part of a team where individual efforts

are visible and appreciated by teammates. Competition and rivalry are not absent, but they are offset by shared goals, shared successes, and external measures of achievement (such as satisfied customers or winning the game). On the sports field, there is no greater sin than giving up, even when the score is hopelessly one-sided. On the job, tasks not done by one worker will generally have to be completed by another.

In too many high schools, when it comes to academics, a student's success is purely personal. External assessment would change this because it turns academic coursework into a positive situation where everyone wins. This attitude allowed Jaime Escalante to generate in his AP Calculus classes the team spirit that football coaches strive for. What his success establishes is that when minority youngsters study as hard as

academic track students in Europe, they will achieve at world-class levels. External assessment can help create the environment to bring this about. □

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