

IS THE **GOAL**
OF **K-12**
TO **produce**
employees?
or learners?

Is education failing students if it doesn't produce enough graduates willing to enter science, technology, engineering, and mathematics fields?

Employees

The modern workplace demands employees with a high degree of technical comprehension. We have a responsibility to prepare our students to enter the working world as technically capable employees. In the 1950s, most high school graduates did not go to college and could still find gainful employment. They went into the world with confidence, knowing that their diploma was backed with the skills required for a successful transition into the workforce. Today, our high school graduates enter the job market unprepared to meet the needs of

our modern workplace. Many of these deficiencies relate to science, technology, engineering, and math (STEM), areas of learning most marketable for today's employers.



By Francis D. Head

Today's international workplace requires the United States to compete with countries around the globe for employee placement. In math and sci-

Learners

The goal of public education in the United States is to create well-rounded citizens, not to function as an institution of job training. To focus public education on workplace skill shortages is to deny the idealism of our Constitution and founding fathers, to shortchange our youth, and ultimately, ourselves. While some countries, Germany for example, send students into vocational and college-prep tracks, we in the United States have resisted that approach and have taken a more egalitarian tact.

A huge attraction of the United States is the idea that you can become anything. In that sense, public education works as an equalizer, toning down class differences and mitigating the impact of poverty. A broad education creates the *potential* for a child raised in poverty (and according to UNICEF, that's more than 22% of U.S. children) to rise to the highest heights. Thomas Jefferson wrote of public education, "[We proposed



By Randy Edwards

ence, our fourth graders are among the best in the world. By the time these students get to the eighth grade, they are in the middle. By 12th grade, these students are at the bottom compared to those from other industrial nations of the world. At the same time, the U.S. General Accountability Office reports that STEM-related jobs have increased by 23%. As the number of technical jobs increases, the number of high school graduates prepared to work in these fields decreases. The deficit seems to be filled by either exporting jobs or importing workers.

There is an argument in education that we should be developing learners and not employees, but it seems that we are not doing an adequate job of creating either. According to an ACT report, *Crisis at the Core: Preparing All Students for College and Work*, in 2004 only 22% of the 1.2 million ACT-tested graduates met all three of the ACT

College Readiness Benchmarks in English, math, and science. When a student receives a high school diploma in the United States, it should come with the confidence that the graduate is prepared to enter either the workplace or college.

The argument that schools should ignore workforce needs also is not valid because the two are not mutually exclusive. Preparing students to enter the workplace in STEM fields involves substantial learning capabilities. If students continue to college, they are better able to meet the requirements of secondary education and hold meaningful jobs while in college. These skills, combined with the specialization of their college courses, prepares them even better for their chosen career. Take accounting, for example. A high degree of computer literacy is required whether you are

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an accounting clerk with a high school diploma or an accountant with a college degree.

The main point here is that by preparing students to graduate with substantial skills in science, technology, engineering, and math, we are providing them with the edge they need for success in life. Ultimately we are preparing them for life, and by having those STEM skills they are ready for the journey.

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a plan] to avail the commonwealth of those talents and virtues which nature has sown as liberally among the poor as rich, and which are lost to their country by the want of means for their cultivation.”

If public education focused heavily on vocational training and workplace skills, would it provide those skills equally to rich and poor alike? Of course not—the vocational aspects will be heavily skewed toward poorer students and schools. Would schools be able to fund such skills programs and keep them current in our dynamic economy? That’s iffy at best.

If we were to train students for workplace skills, what sort of jobs and skills? Economist, former assistant U.S. Treasury secretary, and *Wall Street Journal* editor Paul Craig Roberts has written extensively about the U.S. job market. He reports that based on U.S. Labor Department statistics, the vast majority of job growth (72%

in April) is in domestic services. Month after month, the leading job-growth areas are in fields like bartending, waitressing, other low-paying service jobs, and nursing. That’s the reality of new jobs today. Do we really want our schools focused on training workplace skills for those jobs?

In advanced technology industries, Roberts reports that the United States now imports more technology than it exports. Ask anyone in commercial tech fields to summarize the past few years from a jobs perspective and their report is likely to be depressing.

So how can schools best prepare and encourage students for STEM careers?

We must prepare students by giving them a broad background of knowledge, with a heavy emphasis on fundamentals. We need to teach students to think, to research, and to be *critical*

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thinkers. We need to nurture their inquisitiveness. By focusing on this, we will create citizens that can adapt to any future job market.

And those “business skills” that I keep hearing so much about? Well, employers will have to do what they’ve always done—pay to train their workers. We should not allow that cost of doing business to be socialized, to burden the taxpayer, and to detract from our schools’ primary goal.

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