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Boosting the Economy through Career and Technical Education

United States educational policy has become accountability-driven, with outcomes almost exclusively measured by results on standardized tests of mathematics and language arts. The national consensus seems to be that we need to increase achievement levels and reduce the test-score gaps between groups. These goals are laudatory and should be pursued. However, a strengthened educational system must still accommodate high-quality career and technical education at the secondary and postsecondary levels. U.S. workers, and in particular workers in states such as Michigan that have a strong tradition in manufacturing, need to increase skills in response to a changing industrial mix and competition from abroad.

Traditionally, secondary career and technical education (CTE, formerly referred to as vocational education) has focused on career preparation with the notion that students, if they so chose, could pursue a career immediately after high school. With technological changes and global competition, that option has virtually closed. But rather than end these programs at the secondary level, educators should continue to offer CTE for its pedagogical value of imparting general skills that all workers need (see, for example, the first three tiers of the framework presented at the U.S. Department of Labor's Web page http://www.careeronestop.org/CompetencyModel/Info_Documents/Advanced-Manufacturing.pdf). To ensure rigor, all secondary CTE courses need to be articulated with postsecondary curricula.

At the postsecondary level, the United States should allocate adequate resources to ensure that students receive up-to-date, rigorous, employer-driven career preparation. This preparation would, for the most part, occur at community colleges. These institutions have exhibited the flexibility necessary to deliver education in diverse modalities. Apprenticeships are an excellent vehicle for imparting formal training and should be expanded as much as is practical. Part of the investment of public funds in these institutions may need to be directed into developmental education for either students coming directly from high school or older individuals reentering formal education who have basic skills deficits. Part of the investment may be in technology and equipment. The nation's two educational objectives should be 1) that an applied associate's degree or skill certification should carry, explicitly or implicitly, a "money-back" guarantee to an employer that the holder of the degree/certificate has the general and specific skills to be a productive employee, and 2) that an associate's degree or skill certification should be the minimum level of education sought for all adults.

Can the United States afford to increase its investment in secondary and, especially, postsecondary CTE? Will society and students benefit from such an investment? In studies that use administrative data from the states of Washington, Virginia, and Indiana, I have estimated substantial positive earnings and employment gains of secondary CTE, postsecondary CTE, and apprenticeships for participants. And from a public finance perspective, benefits in the form of increased tax revenues and decreased public assistance payments far exceed the public costs of providing the program. For example, Hollenbeck and Huang (2006) report (discounted) working lifetime benefits-to-cost ratios for the government of 10.37, 1.98, and 18.47 for secondary CTE, community-college and technical-college job preparation programs, and apprenticeships, respectively (see Table 1).

In short, several studies have shown substantial positive earnings and employment impacts for high school CTE. Furthermore, studies done by Upjohn Institute researchers have shown that subbaccalaureate degree programs and apprenticeships have extremely high rates of return for individuals and for state governments. In the zeal to promote mathematics and language arts achievement and accountability, it would be a mistake to weaken curriculum and instruction in CTE. On the contrary, this type of education warrants increased investment.

Reference

Hollenbeck, Kevin, and Wei-Jang Huang. 2006. *Net Impact and Benefit-Cost Estimates of the Workforce Development System in Washington State*. Upjohn Institute Technical Report 06-020. Kalamazoo, MI: W.E. Upjohn Institute.

Note

For more proposals on education and training, see chapters by Robert Lerman and Paul Osterman in *A Future of Good Jobs? America's Challenge in the Global Economy*, 2008. W.E. Upjohn Institute.

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Table 1 Benefits and Costs to the Government of Selected Education Programs in the State of Washington over a Short-Term Payoff Period and over a Working Lifetime

	Short-term		Working lifetime	
Program	Benefits ($)	Costs ($)	Benefits ($)	Costs ($)
Secondary CTE	749	811	8,414	811
Community college job prep	3,967	7,523	14,873	7,523
Apprenticeship	5,353	2,668	49,288	2,668

NOTE: Table entries are for average participant. Benefits include income and sales tax receipts and reduced transfer payments discounted at 3.0 percent. Costs include public subsidies of program costs. $ figures are in real $2005/2006. Short-term is 2.5 years after graduation/exit.