



The Appalachian Higher Education Network

...working with schools, families, communities and diverse partners to raise educational levels across the Appalachian region.

MISSISSIPPI
NORTH CAROLINA
PENNSYLVANIA
OHIO
VIRGINIA
WEST VIRGINIA
ALABAMA
GEORGIA
KENTUCKY
TENNESSEE

EDUCATION & ECONOMIC DEVELOPMENT

"... what drives earnings and employment is the field of study pursued more than the degree. It's what you take that will determine what you make." Anthony Carnevale

EXCERPTS - A CONVERSATION WITH ANTHONY CARNEVALE, DIRECTOR AND RESEARCH PROFESSOR, GEORGETOWN UNIVERSITY CENTER ON EDUCATION AND THE WORKFORCE - APRIL 24, 2013

Excerpts: A Conversation with Anthony Carnevale

During the period 1946-73, there wasn't much of a connection between formal postsecondary education and the workforce. Roughly 70% of American workers had only a high school degree or less and most of those were in the middle class. Presently most jobs that pay middle class wages - about 60% of all jobs - require at least some college.

The story of how we got from an economy that only required high school, at most, to one that requires some college, at least, is a story about technology and globalization.

After 1973, in the last days of the global age when the U.S. dominated the world, other countries, especially Japan and Germany, finally dug out from the rubble of WWII and became more aggressive in their peacetime competition with the U.S. Till then, the primary competitive standard in economic competition had been the mass production of standardized goods and services at least cost. After 1973, new competitive requirements emerged as the world, especially Americans, got richer and wanted more than standardized cheap goods. People still wanted low cost products but they also wanted quality, variety, customization, customer service, innovation, novelty and design and speed of service. The U.S still produced the cheapest standardized goods and services, but fell behind on the new competitive requirements.

In order to meet the new competitive requirements we needed to restructure American industry and the American workforce. The basic recipe for change was to add more technology and more worker skill. As technology automated jobs that only required high school or less and skill requirements went up, the high wages associated with male-dominated blue collar jobs in industries like manufacturing, transportation, utilities - jobs that only required high school or less - began to disappear. The jobs that only required high school or less that remained, the lower skilled blue collar jobs, shifted in the U.S. from North to South and eventually overseas (chasing low wages). Productivity became technology-based. Most of the jobs lost were not due to foreign workers but to technological advances. The infusion of new technology in the blue collar economy guaranteed that the jobs that weren't eliminated and stayed onshore required at least some college, if not a BA degree

At the same time the service industry boomed. Service production required different skills such as being able to have a high level of interaction with people and other 'soft' skills attached to the heightened level of human interaction typical of service jobs in a growing white collar office-based economy; a skill set previously required only of upper management or individuals that typically had higher levels of education.

The economic restructuring that began in the seventies took a long time and was very painful for people with high school or less. As American competitiveness declined we experienced both inflation and stagnant growth in the seventies. Baby Boomers represented the first crop of highly educated Americans with substantial college participation. When they arrived in the economy in the seventies the economy still wasn't ready for them. The infusion of baby boomers with at least some college resulted in a glut of skilled job seekers, individuals widely considered to be "over-educated." These were times of turmoil nationwide and of tremendous disruption. There was real concern that we were creating a revolution of rising expectations, exacerbated by inflation, adult unemployment and a frustrated generation of college educated baby boomers who were unemployed or underemployed.

Then in 1983 a profound change occurred: Computer technology began to penetrate the economy and allowed for the automation of tasks that used to be people-intensive. Companies began to dump employees and tasks that didn't relate to core competencies and ended "start to finish production." Computers facilitated the outsourcing of component parts and allowed companies to specify precisely what was needed and to deliver it exactly when needed. In the end, systems became decentralized and manufacturing became networked. Companies specified outcomes and didn't care how the job got done as long as it got done at their specified cost. Basically, all manufacturers now needed was an assembly plant. These networked systems are what are driving us now. There is no job security, just education and skill that builds employment security - if you can sell it. This paradigm now permeates education and health care.

After 1983, people with low education levels were passed over. We began to see a trend: the more educated you were the more you were paid. Skill sets were deeper and broader. Problem solving skills and personality traits (for example, conscientiousness) began to matter more and more on the job. STEM workers, the designers, engineers, researchers, and developers, became more important. Mechanics, maintenance personnel, and factory workers needed to know how to operate computers and to analyze data. Employers started chasing these skills. It became apparent that these skills were found in people with higher levels of education. Community colleges became very popular. Very slowly, the U.S. began to build this workforce development apparatus from the community college models.

What became more evident in labor market data since the eighties was the variation in earnings by degree level and field of study. The average earnings differences by degree level began to grow. For example, the wage premium for a BA over a high school degree grew from 40% to more than 80% between the mid-eighties and the late nineties. Professional degrees rose to the top of the pack earning the highest wages. A second trend that began in the eighties was the growing importance of “field of study” or college major. On average, higher level degrees still earned more than lower level degrees. But there were a growing number of lower level degrees that made more than some higher level degrees.

More and more, what drives earnings and employment is really the field of study pursued more than the degree. “It’s what you take that will determine what you make.” STEM degrees will generally lead to more and better paying jobs than a liberal arts degree; often a STEM worker with an AA degree will have more work opportunities and higher starting pay than a liberal arts major with an advanced degree. A less than two year certificate in Heating Ventilation and Air Conditioning (HVAC) earns more than a substantial share of BA majors. Almost 30% of AAs make more than the average BA.

Within fields of study, such as engineering, the degree hierarchy still generally prevails. An electrician’s certificate will often lead to a job with a good salary; an Associate’s or Bachelor’s in Electrical Engineering will usually provide a better paying job and more job security and a Master’s in engineering even more so. Some fields (e.g., education and psychology) require primarily master’s degrees; entry level for other fields is a certificate or professional certification. Each pathway is somewhat unique, but in the end some occupational training combined with education is necessary.

There is a strong relationship now between education and the labor market and this creates a lot of tension. While a postsecondary degree or training may not be a formal requirement for a particular position, those who have them get hired at much higher salaries; those who do not have them often do not get hired. But the cost of higher education has become an issue as only about 30% of students are able to pay for their schooling and graduate from college debt-free. We see this playing out in current politics. One idea currently being floated is to allow Pell grants, a major source of federal funding for traditional students seeking an associate’s or bachelor’s degree, to be used for job training for people 24 years or older. This idea is being driven by the general public; it wants more and better education in order for their children to get jobs. Politicians and the public are beginning to see the purpose of education as leading to a job that provides a good wage; it is no longer – or, at least, not just – for the benefit of the individual or to develop good American citizens.

Going forward, the trend is toward specialization. As the workforce has become more mobile, companies are no longer willing to invest in worker training. They want to hire individuals already capable of doing the work. Thus, if you get a liberal arts degree you can’t get a job selling engineering equipment; you are closing off options based on what you study. The optimal program of study is one that mixes general skills with occupation-specific skills. The big idea dominating everything is jobs and careers; this obsession excludes the innate value of higher learning.

In the end, the market economy is making it a job-focused education system. If educators can’t make people employable they can’t achieve their other goals. The ultimate purpose of education is to allow people to live more fully in their time. But, in a market economy it is difficult to live fully if you can’t get a job. The new reality is that since the 1970s the education system has shifted, in part, into being the nation’s workforce development system. Over 75% of postsecondary students say their primary purpose for pursuing education is about having a career.

We are currently under-producing individuals with postsecondary education credentials, but there also is a mismatch. Employers are seeking individuals with higher level skills and many jobs are going unfilled. Yet many of those graduating with bachelor's degrees and higher are having difficulty finding employment. That employers are willing to pay considerably more for higher levels of education demonstrates that degrees have value; but, as stated previously, not all fields of study are equal.

Between 2007 and 2010 we lost 10 million jobs, most of which had been classified as "blue collar". And many of the blue collar jobs we lost are not coming back. The relatively low unemployment rates of new college graduates show that the economy is recovering from the top down. These are not new trends, however. The economy is still behaving the way it has behaved since the 1980s. Automation and computer-assisted processes are increasing productivity without the need for additional lower skilled workers: that's why economic output is growing faster than jobs – the mark of a "jobless recovery". And, we know more about where the jobs will be than people think. There will be a lot of health care jobs. Overall, 37 million jobs will require some postsecondary training; many if not most will not require a four-year degree. Educators make the mistake of focusing only on a BA/BS degree or higher and tend to disregard AAs or certificates.

The harsh reality: once you decide that education is money you have changed the game. The question is what will be provided as a minimum for those who cannot afford to buy it. The education system is stratified: wealthy go to the top schools, poor and minority students go to two-year or less selective four-year schools. Seventy percent of college students are working; 40 percent are working full time. The bottom line for a working class kid is to get a job after high school graduation because without a job he/she cannot go to college. And, field of study is the key to making it pay in the workforce.