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Knowledge Shock Series Part 2: "Education & the Labor Market Out of Sync"

The 2017 movie "Hidden Figures" focuses on three intelligent African-American women who were hired by NASA due to their advanced mathematical attainments. Although they experienced race and gender discrimination there, their knowledge of higher mathematics and ability to apply this knowledge to new technologies gradually earned them both the respect of their co-workers and career advancement. They are among the unsung heroes of the U.S. space race.

What was the secret to their success? With the help of their parents, they overcame significant obstacles to find the education that fostered their innate mathematical talents, and in the course of their education, they mastered the essential skill of "learning how to learn."

Technology has advanced enormously since that of the 1960s depicted in "Hidden Figures," and it has further increased the importance of obtaining a good education. All students need to gain basic foundations in reading and mathematics that enable them to successfully pursue further learning. Secondly, they must seek information on professions or occupations suited to their innate talents and pursue educational programs that prepare them for employment in their chosen field.

KNOWLEDGE SHOCK and Education Today

Over the past four decades, technology has raised the education bar for occupations paying a middle-class wage. The 1970s saw the introduction of personal computers (PCs) in homes and businesses across the United States. At that time 66 percent of all jobs required a high school education or less, and 33 percent required some type of post-secondary education. Today the U.S. labor market has been turned upside down by the spread of advanced technology in workplaces. Two-thirds of occupations now require post-secondary education, while a high school education or less is sufficient for only about one-third of jobs. The current K-12 school system lags far behind the rate of change in the U.S. labor economy.

America's failure to grow a larger knowledge workforce has been evident for several decades. Today because America's education system is so drastically out of sync with the demands of a technology-driven economy, the United States is now facing KNOWLEDGE SHOCK.

The U.S. Department of Education conducts a nationwide testing program, the National Assessment of Educational Progress (NAEP), which administers exams to students in Grades 4, 8 and 12 generally every two years. The results issued in the Nation's Report Card are nothing short of alarming. In 2015, the last year for which scores are available, only 37 percent of 12th graders were proficient in reading and the results were only slightly higher at the other grade levels. In mathematics only 25 percent of 12th graders tested at proficient or above, while 4th graders reached 40 percent and 8th graders 33 percent. Moreover since 1992 when NAEP testing began, 12th graders have declined 5 points in reading and have stayed at the same level in math.

The NAEP scores are not alone in indicating that significant proportion of U.S. students do not have educational foundations that will equip them for success in higher education or today's labor market. About 68 percent of American high school students seek college admission. Most take either the SAT or ACT exams that are designed to assess the college readiness of students. Not surprisingly between 1970 and 2017 overall test scores on these exams have declined. Only about one-third of today's students who begin a post-secondary program will complete a degree or certificate program.

There is no magic bullet or quick fix for solving this. Many facets of the U.S. education-to-employment system need major overhauls starting with concerted efforts to boost literacy and numeracy in K-12 education. They are foundation stones for learning how to learn. Because workplaces are changing so rapidly due to globalization and information technology, lifelong learning is essential for continued employment and career advancement. As Alvin Toffler cogently stated: "The illiterate of the future are not those that cannot read or write. They are those that cannot learn, unlearn, and relearn."

Major educational reform is also needed in career information and preparation programs. Much of the problem stems from the isolation of the education community from employment sectors in their area. Career exploration should begin in elementary school so students can learn about career opportunities in their region that match their interests and skills. However, the NAEP data indicate that it is particularly at the high-school level that American students fail to gain ground. A lack of motivation seems a particular problem, as many students do not see the relevance of what they are learning to their future endeavors.

To address this problem, more than 2,000 career academy high schools are now operating nationwide, with more to come. These academy high schools enable students to see that practical applications of their studies to a field in which they have an interest. Career academies aim to improve student performance, raise high-school graduation rates, and increase enrollment in appropriate post-secondary programs including those awarding four- or two-year degrees, or certificate or apprenticeship options.

A notable example of a successful career academy model is located in Santa Ana, California. High School Inc. was formed ten years ago within a public school, Valley High School. It began with only 90 students enrolled into six career academies: culinary arts and hospitality; health care; automobile logistics and transportation; new media; global business; and engineering, manufacturing, and construction. In 2014 and 2015 comparisons, students who were in High School Inc. for at least two years had a 5.8 percent higher graduation rate than Valley High School students who were not in one of the academies. In a comparison of students with less than a 3.0 GPA, the High School Inc. graduation rate was 12.2 percent higher. Over the past seven years, the graduation rate of Valley High School has increased 18.9 percent to 88.9 percent which is 5.7 percent higher than then the average graduation rate of the state of California. In the next academic year, all of Valley High School's 2,230 students will enroll in one of the High School Inc. academies. These results are especially remarkable in view of the fact that Santa Ana is a working-class community with a large Latino population, thus making English-language proficiency a significant problem.

To be successful, career academies must involve local businesses and organizations in a wide variety of cooperative activities, such as working with educators on relevant curriculums and keeping them up-to-date, providing equipment, and sponsoring internships. High School Inc. is a unique collaboration of the Santa Ana Chamber of Commerce, the High School Inc. Foundation to which local businesses and other organizations contribute, and the Santa Ana United School District.

Cross-sector partnerships like High School Inc. are based on the RETAIN model as previously discussed in the Gordon Reports. RETAINs are a way for local schools, businesses, and community organizations to break out of their silos and work together in advancing the prosperity of a region or community. As a June 2017 Brookings report states, “Local leaders are on the front lines of connecting job seekers to employment opportunities and are often best-positioned to address local labor market realities.”

Focusing on Current Unemployment

The June unemployment rate reported by the Bureau of Labor Statistics was 4.4 percent. However the level of long-term unemployment (27 weeks or more) continues to remain higher than levels of the past 30 years.

Job vacancies were also higher, reaching an estimated 8.6 million nationwide. Yet over 34 million Americans aged 16 to 55 have given up looking for work. If they were included in the unemployment calculations, the rate would be a more accurate 18.1 percent. Many of these disengaged workers were a key voting bloc for Donald Trump in the 2016 presidential election.

We are witnessing the continued downward spiral of America’s education-to-employment system that is so vital to increasing the nation’s supply of talent. Wages will rise as employers chase a dwindling supply of skilled workers. The U.S. economy may also contract as employers turn to other countries that have been more successful at creating a better educated, 21st century workforce.

The structural and systemic meltdown of the U.S. labor force cannot be solved by monetary policy alone. Nor will it be solved by a national industrial policy. The current unemployment statistics reinforce the urgency of addressing KNOWLEDGE SHOCK through greatly expanding education reforms based on the cooperative RETAIN model. RETAINs offer viable regional solutions that can help rebuild our education-to-employment pipeline, improve the skills of the American workforce, and increase future productivity, performance, and profits.

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