PRIMARY EDUCATION AND THE FUTURE OF U.S. COMPETITIVENESS - INSIDE SOURCES

Posted on March 29, 2024 by Thomas A. Hemphill | Inside Sources

When discussing “national competitiveness” in a global venue, the concept of “human development” is an important component of determining a nation’s productivity and is found in employee skills identified by employers as critical for success in the modern global economy.

According to the World Economic Forum’s Future of Jobs Report 2023, the top two skills — cognitive in nature — identified by employers are analytical (critical) thinking and creative thinking, skills formally nurtured in a nation’s elementary and secondary — or primary — education system and necessary for successful national competitiveness.

The IMD World Competitiveness Yearbook — an annual assessment (and ranking) conducted by the International Institute for Management Development of key factors driving and shaping competitiveness for a country — focuses on four primary factors of national competitiveness: economic performance, government efficiency, business efficiency and infrastructure.

For the United States, a five-year progression (2019-23) reveals a rather disturbing trend. In 2019, the U.S. was ranked third, but in subsequent years (2020-2022), the U.S. dropped to a No. 10 rank. In 2023, it rose modestly to a No. 9 ranking.

While the U.S. economy was significantly affected by the deleterious effects of COVID-19 in 2020 and 2021, those effects were relatively less significant in 2022 and 2023.

An indicator of human development — focused on creating this learning foundation and necessary for enhancing national competitiveness — is the Program for International Student Assessment (PISA), which is coordinated by the Organization for Economic Cooperation and Development.

The PISA measures the performance of 15-year-old students in reading literacy, mathematics literacy, and science literacy every three years since 2000. In 2018, there were 79 countries (OECD and non-OECD) included in the PISA, and in 2022 (the most recent assessment) there were 81 countries (both OECD and non-OECD) included in the PISA.

In 2018, the reading literacy ranking for the U.S. was 18th, and the 2022 U.S. ranking is ninth; the 2018 mathematics literacy ranking for the U.S. was 38th, and the 2022 U.S. ranking is 34th ; and the 2018 science literacy ranking for the U.S. was 13th, and the 2022 ranking is 16th . While U.S. reading and mathematics literacy is up in 2022, science literacy is down from 2018.

Most important, a major economic competitor — represented in the ranking by four major provinces where students were tested in the Peoples Republic of China — ranked first in mathematics and science literacy. Alarmingly, national competitiveness is based in science and technology, and the U.S. high school student in 2022 is ranked in the mediocre middle among countries surveyed in mathematics literacy, and barely in the top 20 percent in science literacy.

Is this PISA ranking of U.S. students a result of too little financial “investment” in elementary and secondary education? According to the National Center for Education Statistics, the United States spent $15,500 per full-time-equivalent student in 2019 on elementary and secondary education, which was 38 percent higher than the average of the 38 OECD member countries of $11,300 (in constant 2021 U.S. dollars). For 2019, the U.S. ranks No. 5 among OECD countries, with the Republic of Korea and Austria tied for No. 3 ($15,900), Norway at No. 2 ($18,000), and Luxembourg at No. 1 ($25,600). In 2010, the U.S. ranked No. 2 among OECD members, with $14,600 per full-time-equivalent student expenditure, with only Norway exceeding the U.S. at $16,800 per full-time-equivalent student expenditure.

The United States is obviously not getting a sufficient return-on-investment (per full-time-equivalent student expenditure) in elementary and secondary education, as it has mediocre scores in mathematics literacy and declining scores for science literacy for 15-year-old students surveyed in 2022. The only significant improvement for 15-year-old students surveyed is in the reading literacy indicator, where the United States has finally entered the top 10 (No. 9) in 2022.

What do these human development and education expenditure indicators mean for the future of U.S. national competitiveness? Certainly not a promising future, where the U.S. is barely ranking in the top 10 in national competitiveness globally. Mathematical and science proficiency are critical ingredients for technological innovation, i.e., R&D and commercial technological creativity, a bulwark of modern national competitiveness.

If these educational trends continue, the United States will not have an adequate indigenous workforce of scientists, engineers and technologists equipped to maintain scientific and technological leadership, becoming perpetually reliant on scientifically and technologically-skilled immigrants. More to the point, we must demand that elementary and secondary education systems re-orient efforts to significantly improve mathematical and scientific teaching expectations in the classroom.