

The NATIONAL STRATEGY FORUM REVIEW

An Online National Security Journal Published by the National Strategy Forum

Chapter 5: Education and National Security

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America relies upon a strong, cutting-edge economy to compete in a globalized world. As scientific and technological advancements progress exponentially, many nations are becoming increasingly reliant upon these industries to achieve economic growth and prosperity. The American economy is supported by the education system. To achieve economic security and prosperity, education at all levels must adapt in ways that meet the demand for well-educated graduates capable of competing in the evolving global economy.

The nexus between higher education and U.S. national security is important for several reasons:

- Higher education has transformed America's economy. The knowledge economy contributes to America's innovative spirit, our capitalistic philosophy, and our skilled workforce. Without quality higher education, the U.S. cannot achieve its fullest growth potential.
- The science and technology sectors are vital contributors to America's economic well being and national security. Today, we are a leader in science and technology. Higher education significantly contributes to our ability to produce top-notch scientists, technicians, researchers, and academics. In addition, America cannot compete militarily with other nations without advanced weapons technology programs, which are only possible with cutting-edge science and technology. To maintain U.S. military supremacy, these capabilities must be maintained.
- The public sector relies upon higher education to develop leaders at the city, county, state, and federal levels of government. Higher education trains government leaders and directly affects our nation's leadership and policy decisions at all levels of public office.
- A vibrant, informed civil society is the backbone of American democracy. Higher education improves the intellectual capabilities of citizens to grasp the meaning of democracy and to positively contribute to its nurturing.

- Civil society should have the ability to engage in vibrant public debate about national policy issues. An informed citizenry, engaged in public debate, sharpens the policy focus of government, which contributes to a more effective, reflective, and secure public sector.

America's ability to produce top quality graduate students hinges on the educational opportunities that are available. Unfortunately, American education has seen a steady decline over the past decade. Graduate students are less competitive with other nations in science, mathematics, and reading skills. In fact, the U.S. has slid in educational rankings over the last decade. Coincidentally, America's technological edge has lost ground to China, India, and South Korea. These foreign countries produce an incredible volume of science and technology graduates, but often at a qualitative disadvantage. Although America struggles to compete numerically, we can certainly compete qualitatively; this should be our strategy.

Achieving a viable higher education system faces a number of challenges.

The academic curriculum must accurately reflect the economic and industrial needs of the country. A major obstacle exists for achieving competitive advantages in science, mathematics, reasoning, critical analysis, reading, and foreign language. Curriculum reform is needed. Too often students lag behind in basic reading and math skills. An educational gap at the secondary and postsecondary education levels contributes to a serious degradation in higher educational potential. If students must relearn rudimentary skills at the postsecondary level, they waste time that could be spent succeeding in other areas of study. In addition, too few students are pursuing advanced education in science and mathematics fields. This lack of interest occurs from both a financial disincentive and from a lack of rigorous training needed to succeed at the higher echelons of academia. The current education system does not sufficiently emphasize the coursework and skills – particularly science, math, and reading skills at the secondary education level – that students will need to compete in the global economy of the future. While a diverse liberal arts education produces a well-rounded individual, a broad curriculum should not be pursued to the exclusion of practical skills that graduates will rely upon in the competitive working world.

The cost and affordability of higher education are unsustainable long term. Increasing costs of higher education decrease access to higher education along the entire socioeconomic spectrum, but particularly for low-income students. Institutions face increasing costs per student, forcing students to pay higher tuition rates; meanwhile, state and federal funding (educational grants, fellowships, and scholarships) is drying up. Financial subsidies and financial aid packages should be readily available to improve access among the public to higher educational opportunities. These financial barriers discourage students from pursuing careers in advanced science or mathematics fields. The cost of medical school, for example, is exorbitant and the return on financial investments is long delayed. Consequently, our national health system is facing a dearth of general medical practitioners because medical students tend to migrate to higher paying specialty fields. Since America's economy relies upon a vibrant scientific sector,

educational opportunities should reflect this need by providing better financial incentives for students in these fields of study.

Study abroad and foreign exchange programs are a vital part of any educational experience. Learning about other cultures can significantly change the way a student thinks about the world. These eye opening experiences create better understanding of the complex international system, improve understanding of foreign cultures and ideas, and create opportunities for Americans and foreigners to engage in productive dialogue. Not only do these experiences shape the mental acuity of students, but they also help to positively improve America's image. Study abroad opportunities for domestic students, and support for foreign exchange programs for foreign students, is an important tool for shaping the minds of graduate students. A reevaluation of government support for these programs is needed to ensure that America is calibrating its educational opportunities to the needs of both domestic students and foreign students.

An education system is only as good as its teachers. A critical mass of highly educated, well paid, and motivated teachers is needed to train the future generations. Unfortunately, the system lacks a large resource of highly trained teachers—particularly in the math and science fields. A principal cause is the low salary and other financial incentives for teachers at the secondary and postsecondary levels. In order to attract the best and the brightest individuals to teaching careers, financial remuneration should fit the valuable expectations placed on teachers, at least as is commensurate with private sector positions.

Finally, education needs to be elevated on the political agenda. For too long, education has remained a mid-level political priority due to unrealistic expectations and lack of policy solutions. In addition, the link between education and national security has not been adequately communicated to the private and public sectors. One untapped driver of the political agenda is the business community. Political cooperation with the business community could help to boost financial support and increase educational competition and quality. For example, a structural difference between the business community and public policy is the innovative drive of the private market. Education reform falls short of expectations because educators and educational institutions have not been provided with adequate incentives to implement radical transformation to compete in a private market-like system. Public schools (K-12), for instance, all receive federal funding with little regard for academic performance. Charter schools, on the other hand, tend to innovate as they compete for students in the education market. Taking cues from the business community, both in financial support and structural reform, may elevate education on the political agenda and increase academic quality.

Education lies at the core of economic prosperity and national security. Educational investments of time, resources, and human capital will contribute to stronger U.S. economic security.