TO THE COMMITTEE ON EDUCATION ON WORKFORCE
U.S. HOUSE OF REPRESENTATIVES

I am Reynold Verret, the Provost at Wilkes University, in Wilkes-Barre Pennsylvania, and also Professor of Chemistry and Biochemistry. I wish to address the committee on the how we are preparing young people for the workforce and to take leading roles in developing our economy and to discuss the challenges that we must meet as educators.

I speak from experience in higher education as an educator, researcher, and mentor, having worked with diverse student populations in varied institutional settings: on the faculty at Tulane and Clark Atlanta University, and as a fellow at MIT and Yale, and more recently as dean and provost at University of the Sciences in Philadelphia and Wilkes University.

Founded as Bucknell Junior College in 1933, Wilkes became a four year institution soon after the end of World War II and attained university status 15 years ago. It now consists of 5 colleges and professional schools: Arts, Humanities and Social Sciences; Science and Engineering; Business; Pharmacy and Nursing; Education; and Graduate and Professional Studies.

Our professional programs do prepare students for specific careers as nurses, pharmacists, engineers. These are much needed. Many of our students will likely have several careers over a lifetime. Thus we prepare them for a flexible and evolving future. Our major programs, especially in the arts, sciences and engineering prepare undergraduates for a wide range of career choices and also for postgraduate study, *e.g.* doctoral programs, medical or law school.

These major programs emphasize practice in the disciplines, through undergraduate research and capstone projects. It is important that biology majors practice biology and communications majors learn the practice of their fields. Many of our students engage in research with the faculty and publish their work. The student led Zebra Communications takes on a number of important service projects in the community and our students graduate with expertise very useful to their future employers. The advisory board for our Engineering programs, consisting of leaders of engineering firms in the region, has noted that our graduates join their firms with concrete knowledge and skill, fully prepared to function as engineers. Our students in Entrepreneurship conceptualize and operate businesses as an essential element of their education, which culminates in senior capstone. Our students work on multidisciplinary teams to develop business plans, execute projects and compete in the regional Great Valley Business Plan Competition.

We would like to note that many of our students, and those of institutions like ourselves, are first generation college students, who go on to make remarkable contributions in their fields of

endeavor. To an annual survey question, whether either parents received a degree from either a 2 year or 4 year college, roughly 35% of our young people answer NO. Approximately 36% of our students receive PELL grants and 17% receive SEOG. Wilkes alumni include leaders of industry, nationally acclaimed scientists and engineers, and the recent editor of the Journal of the American Medical Association. It is our purpose of institutions like us to bring all talent to the fore in service of community, nation and world.

Unfortunately, a gulf separates K-12 education and higher education. Too many high school graduates are ill prepared to begin college work. Aware of the flatness of our world as indicated by Thomas Friedman, we also sense the urgency to educate and prepare fully all our young people for a wide range of careers and for a multinational and changing world. In this flat world, we cannot afford to adequately educate a subset of our population while our international partners strive to maximize the talents of their young. Our institutions have responded with a range of remedial programs that allow students to make the transition successfully. However, we must acknowledge that those students who arrive at our doors are indeed the remnant, survivors of an inadequate K-12 system. As a nation , we must expect that all college graduates have acquired the ability to communicate effectively orally and in writing, that they have the requisite mathematical ability, that they understand history and society, that they can reflect critically on complex matters.

We also seek to respond to adults who must develop new skill and knowledge. For the Commonwealth of Pennsylvania, the recent census shows that 22.4% of adults over 25 years of age have earned a bachelors degree, 2% below the national average. For this county, the rate is ~20%. Thus, it is essential that institutions like ourselves assist adults who seek to complete the bachelors degree. This has required close work with community colleges in our region to facilitate matriculation of students to insure that they complete the baccalaureate. We have completed roadmaps for all available majors that tell students at our local community college what courses to take to smoothly transfer into a program at Wilkes University.

A current effort in the Department of Education seeks a standard definition of the “credit hour”. It is important that the definition have real flexibility. Promoting baccalaureate completion and addressing the needs of adult learners requires legitimate ways to grant academic credit for valid life experience. We and many institutions have established processes for *Prior Learning Assessment*. A rigid definition of the “credit hour” would preclude this valuable educational approach.

We are a destination in this region for science and engineering students. We are the only ABET accredited engineering program in our region. Howard Hughes Medical Institute recently recognized the excellence of our Biology and life sciences. Yet, we and American education in general must do more to cultivate talent in the STEM discipline among our young. In his 2006

State of the Union Address, President Bush alerted the nation to a crisis in science education. In the 2011 *State of the Union,* President Obama also stressed that "The quality of our math and **science education** lags behind many other nations". A third or more of graduate students in the sciences are foreign nationals, who do contribute significantly to the nation. The shortage of scientifically or technologically educated Americans is not only a workforce issue; it is also a national security issue.

It is imperative that we cultivate and capture the imagination of young scientists during their early years, middle school or earlier. Like professional cellist, scientist and engineers develop their inclinations early. If not nourished they move on. It is essential that they encounter passionate and skilled teachers. I recall a gathering of professional scientists. In response to the question, "when did you discover your passion for sciences?" Most replied before their teenage years. Very few recalled deciding while in college. At Wilkes, our WEBS program (Women in Biological Sciences) brings young women into our laboratories for enriching experiences. Our efforts to cultivate the pipeline of students seeking the bachelors in the sciences and subsequent advanced degrees call for a special efforts to encourage gifted science student to enter the teaching profession. This is a critical need, here and nationally. NSF programs such as the Noyce grants to support tuition for science students seeking teaching certification are much needed. We must also support reasonable pathways to allow career professional in the STEM areas to earn teaching certificates.

Graduates of higher education contribute to the economy in an important way as innovators who renew the economy. Whether in science, finance or health, they develop ideas that translate to new businesses, in some instances that lead to entirely new industries. Our institutions instill in them broad sets of tools and capacities for discovery, planning and reasoning that prepare them for the unforeseen opportunities of tomorrow. It is this precious imagination and resilience that has built the nation thus far and on which we continue to rely.