

Senate Majority Policy Committee
Hearing on Higher Education and Workforce Development
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Mr. Chairman and Members of the Committee, we thank you for all you have done--and continue to do--in support of our students and our schools and for your work—exemplified in this hearing today--to perfect the relationship between workforce development and higher education.

I come before you today on behalf of the independent nonprofit colleges and universities in Pennsylvania. I am a former president of one of these schools, and served the last 7 years as the statewide leader of the Association of these 80+ Independent Colleges and Universities of Pennsylvania (AICUP). I also come to this assignment as a former Secretary of Labor and Industry—the longtime home of this Commonwealth’s workforce development programs and the repository of most of the billions in state and federal money that supports those programs—for the millions of people who have benefited from them over these last 60+ years.

I also come to this assignment as a first generation to college graduate—in fact, none of our grandparents had even the benefit of a high school education. My 11 siblings and I understand in a personal way the direct connection between education--specifically higher education, and preparing for a successful work life.

In just two generations, it is higher education that has made it possible for our family to go from subsistence farming in Ireland to shop floor factory work in America to teachers, social workers, carpenters, athletic trainers and even CEOs and lawyers—all since our grandparents emigrated to this great country. I sought out a post in higher education as my last career change precisely because as part of a second generation American family, I understood--in a personal way--that education, specifically PA education, is what made possible such a dramatic socio-economic trajectory shift in such a short span of time.

Please allow me to add five comments to this excellent discussion.

First, the independent nonprofit schools in PA—by definition those that do not receive institutional funding in the state budget—work hard to train the workforce of today and tomorrow, educating right now over 279,000 students. They educate:

- 53% of all four-year degree-seeking students in PA
- 45% of all post-secondary students (including 2-year and community colleges)
- 52% of all working-age “adult” students seeking bachelor’s degrees
- 47% of all lower income PHEAA students in PA
- 54% of all underrepresented minority college students.

(All data from US Department of Education IPEDS)

They do all this while maintaining average net tuition/fees rates of about [\\$13,000](#) —that’s what families who get financial aid actually pay—rates that are

- ✓ virtually [unchanged](#) (in non-inflation adjusted dollars) over the last ten years
- ✓ 25% less than [national averages](#) for independent nonprofit schools
- ✓ About only a few thousand or more than the average net tuition and fees at our four state-related schools -- while receiving none of the billions in direct PA budget line items that go to those institutions.

These independent nonprofit schools are vital to the future economy of the state and nation as they

- ✓ Provide employment to current workers (over 195,000 of them)
- ✓ train the current and future local and state workforce
- ✓ add [\\$29B](#) to the PA GNP each year (more than entire budgets of [28](#) states).

They help support 58 different local economies with

- ✓ \$5.3B in local spending by students and families
- ✓ \$1.5B in state, local and property [taxes](#)
- ✓ millions of volunteer hours at events in communities in which they have been embedded for an average 140 years.

All told, according to a recent independent economic [analysis](#) that separately reviewed both Penn State and the AICUP schools' GNP impact, these schools represent almost [7%](#) of the PA economy, [more than coal](#) and [natural gas](#) combined, and are the largest part of the [fifth largest industry](#) in our state.

We've heard negative rhetoric about higher ed in Pennsylvania from some sources in this state, so it might be refreshing for this committee to hear some of the **positive** things that are happening here in higher ed. Let's start with a list of ten:

- PA #2 in the country at [importing](#) out of state students to PA schools (34 years of data)
- PA #3 in the country on [WSJ list](#) of [500 best](#) universities in America
- PA #4 in the country in NIH federal [research](#) dollars. The AICUP sector leads higher education in PA in winning NIH and NSF science grants.
- PA #8 in the country in [total](#) financial aid to low-income students
- PA #11 in the country in [per capita](#) aid to low-income students
- Higher education is the 5th largest industry in Pennsylvania according to the [PA Chamber](#) of Commerce and Industry, and the AICUP independent nonprofit schools represent more than half of that industry.
- The Pennsylvania Department of Community & Economic Development (DCED) recently recognized AICUP schools as "[powerhouses](#)" and a real "[economic engine](#)" for Pennsylvania.
- The [Washington Post](#) said the future of A.I. is in Pennsylvania, which it says is "at the core of America's next Industrial Revolution." The first A.I. computer program was [invented at an AICUP school](#), and AICUP members are helping lead the world in A.I.
- AICUP schools are affiliated with 16% of all American [Nobel Prize](#) winners
- AICUP schools [generate](#) \$1 in every \$35 in the PA economy, support 1 in every 33 jobs in the PA economy, AICUP schools return \$158 for every \$1 invested by PA state government through PHEAA grants to its students (the highest return by far of any higher ed sector).

Second, the independent nonprofit AICUP schools in PA work hard to train the workforce of today and tomorrow, graduating 39,000 [new workers](#) into the PA economy every year. That is substantially more than any other higher education sector in the state. AICUP schools offer numerous educational programs—degrees, certificates and non-credit—that often align directly with the state’s workforce needs, with 68% of all bachelor’s degrees awarded in [career-directed majors](#). Most notably, AICUP schools play a major role in supplying graduates for occupations currently in-demand by PA employers such as nursing, teaching, STEM, and business.

- ✓ 43 AICUP colleges and universities offer bachelor’s degrees in nursing. AICUP institutions award 69% of all 4-year bachelor’s degrees in nursing (79% of nursing degrees awarded to minority students).
- ✓ 60 AICUP colleges and universities offer bachelor’s degrees in education that prepare students for teacher certification. 45% of all teaching certificates issued go to a graduate of an AICUP institution.
- ✓ 72 AICUP colleges and universities offer bachelor’s degrees in one or more science, technology, engineering, or math (STEM) fields. AICUP institutions award 58% of all STEM degrees in PA.
- ✓ 72 AICUP colleges and universities offer bachelor’s degrees in business with concentrations in fields such as A.I., accounting, finance, management, and marketing. AICUP institutions award 47% of all 4-year bachelor’s degrees in business.

Third, the AICUP schools are everyday participants in workforce development with a myriad of existing partnerships.

AICUP colleges and universities have formed workforce-based partnerships with a variety of organizations—including

- ✓ K-12 schools
- ✓ local communities
- ✓ nonprofit groups
- ✓ stackable credential providers
- ✓ public sector agencies and
- ✓ health care facilities.

All are designed to help fill the skills gap in Pennsylvania’s workforce and support Pennsylvania businesses. Let me give just a few (from among hundreds of) examples in each of six categories of higher ed/workforce partnerships.

K-12 Education and AICUP Workforce Partnerships

AICUP member institutions work with local K-12 school districts throughout the state to help their students learn about future career paths and gain jobs skills.

- [Lebanon Valley College](#) serves as a School-to-Work (STW) program site for high school students with disabilities enrolled in the Lancaster-Lebanon Intermediate Unit. The program is designed to help high school students with disabilities learn self-determination and job skills and prepare for entry into the workforce after graduation.

- [Lycoming College](#) hosts the Pennsylvania Free Enterprise Week program every summer. The event offers a low-cost or no-cost opportunity for more than 2,000 high school students from across Pennsylvania to learn about entrepreneurship and operating a business through hands-on simulations and workshops.

Higher Education and AICUP Workforce Partnerships

AICUP colleges and universities work with other 2-year and 4-year postsecondary institutions in Pennsylvania to create pathways for students to obtain workforce skills and knowledge through postsecondary degrees, certificates, micro-credentials, and industry certifications. At this point in time, AICUP schools have over 300 articulation agreements with community colleges, promoting quick transfer in a continuous education model for specific workforce need fields. Those agreements ease the pathway, often times offer discounts and timelines that best serve these future workers.

- [Allegheny College](#) is a partner in the regional Manufacturing Advanced Placement Program to move Allegheny graduates from a liberal arts education into careers in manufacturing through the Master of Manufacturing Management program at Penn State-Behrend.
- [Carnegie Mellon University](#)'s Robotics Academy has articulation agreements with Westmoreland Community College and the Community College of Allegheny County to assist 2-year students pursuing a degree in robotics.
- [Saint Francis University](#) supports regional workforce development in the aviation sector through its Aviation Education Center at the John Murtha airport. Students can complete a certificate program in either pilot training or aviation maintenance with the option of working toward a bachelor's degree.
- [Seton Hill University](#)'s transfer program with Westmoreland County Community College allows students working toward an RN degree at Westmoreland to seamlessly transfer into an RN-BSN program at Seton Hill. The program helps fill a nursing workforce gap in hospitals and nursing facilities in western PA.

Stackable Credential Providers and AICUP Workforce Partnerships

AICUP schools understand that a number of well-paying jobs in Pennsylvania do not require a 4-year college degree. As part of their workforce development mission, many AICUP colleges and universities also offer a wide range of high-quality, short-term, non-degree credentials that can be completed in less time and at a lower cost than traditional associate or bachelor's degrees. These credentials provide Pennsylvania residents with the skills and knowledge needed to advance in a current job or find employment in a new industry or occupation. AICUP colleges and universities offer over 70 short-term certificate programs in occupational fields that include agriculture, computer science, dental tech, health administration, culinary arts, criminal justice, and social services. Many AICUP institutions also offer no-cost or low-cost micro credentials, digital badges, or industry certifications through both in-classroom and online instruction. A sampling of these opportunities is shown here:

- **Allegheny College** - Stackable micro-credentials in software and computer programming.
<https://sites.allegheny.edu/alic/>
- **Carnegie Mellon University** - Micro-certifications to train robotic technicians.
<https://www.cmu.edu/roboticsacademy/Research/SMART/index.html>

- **Drexel University** - Dornstrife Center for Neighborhood Partnerships provides a variety of workforce development opportunities for teens, adults, and families.
<https://drexel.edu/dornsifecenter/programs/education-and-workforce>
- **Duquesne University** - Certificates and micro-credentials in areas such as business administration and health care. <https://www.duq.edu/academics/explore-all-programs/special-programs.php>
- **Elizabethtown College** - Over 300 online certificates and micro-credentials through the Etown Edge program. <https://edge.etown.edu/>
- **Peirce College** - Stackable credentials and industry certifications in information technology.
<https://www.peirce.edu/degrees-programs/stackable-credentials>

Local Communities and AICUP Workforce Partnerships

Pennsylvania's independent nonprofit colleges and universities are committed to their local communities. These institutions have developed innovative ways to help their hometowns by extending their educational mission to include workforce training for community residents.

- [Eastern University](#) has a partnership with the Montgomery County Office of Economic & Workforce Development which allows dislocated workers to continue their education in one of Eastern's graduate programs.
- [Muhlenberg College](#) provides a variety of educational programs to address the workforce needs of local businesses. This includes serving as a training provider for TRA/TAA and WIOA to educate and re-educate displaced workers. They are also an approved training partner with the regional Workforce Development Board.
- The [University of Pennsylvania](#) partners with a variety of organizations such as the West Philadelphia Skills Initiative, AppleOne, and Aerotek to provide workforce development training to residents of Philadelphia. Penn also supports small businesses in Philadelphia through targeted purchasing programs for goods and services.

Nonprofit Organizations and AICUP Workforce Partnerships

Numerous AICUP member institutions have built mutually beneficial partnerships with nonprofit organizations throughout the Commonwealth. Student volunteers help their communities while participating in internships and gaining work experience and job skills.

- The Center for Civic Learning and Action at [Dickinson College](#) manages the Community Engagement Fellows (CEF) program, which gives back to the local Carlisle community by training and supporting Dickinson students who make a 2-year volunteer commitment to an area nonprofit organization.
- The Center for Public Service at [Gettysburg College](#) trains students who volunteer to connect College resources (faculty expertise, student volunteers, college facilities) to community needs. In the last year, student volunteers completed over 4,500 hours of service collaborating with 56 unique community organizations. These included: Adams County Children's Advocacy Center, Adams County Farmers Market, and the Health Professions Task Force. The organizations receive assistance with program planning, grant

applications, budgeting, and advertising. Students receive extensive work experience and a portfolio of projects to use in seeking employment after graduation.

Public Sector and AICUP Workforce Partnerships

- A number of AICUP institutions have partnered with the [Pennsylvania Department of Community and Economic Development](#) to offer direct assistance to business owners through the Pennsylvania Small Business Development Center (SBDC) network. [Nine of the 15 Small Business Development Centers](#) in Pennsylvania, serving clients in 37 of the state's counties, are located on the campus of an AICUP member college or university. Centers are hosted by ***Bucknell University, Duquesne University, Gannon University, Juniata College, Saint Francis University, Saint Vincent College, The University of Scranton, Widener University, and Wilkes University***. The SBDC network helps entrepreneurs and small businesses bring jobs to Pennsylvania and create economic opportunities in regions across the Commonwealth.

Health Care and AICUP Workforce Partnerships

Over 50 AICUP colleges and universities offer degree programs in health science fields (e.g., nursing, physical therapy, physician assistants, etc.) and produce a high percentage of all the people who work in health care in this state. These institutions are important partners in filling shortage areas in regions across Pennsylvania.

- [Harrisburg University of Science and Technology](#) established a partnership with UPMC to create a new opportunity for Pennsylvania residents to pursue careers in nursing. The new School of Nursing at UPMC Harrisburg is a 16-month accelerated diploma program leading to licensure as a registered nurse (RN). Students who graduate and pass the RN licensing examination are well-positioned for employment at a UPMC medical facility and can earn their bachelor's degree in nursing (BSN) from Harrisburg University while maintaining full-time employment.
- [Lake Erie College of Osteopathic Medicine](#) has provided significant financial support to increase the supply of health care workers in northwest PA. This included funding for the development of new nursing labs at Erie Community College to assist in training student nurses and patient care technician labs
- [Saint Joseph's University](#) partners with Lancaster General Hospital on programs designed to expose high school students to careers in the medical field. Students can participate in workshops and hands-on experiences in which they learn about jobs in a variety of health specialties like respiratory therapy and nursing.
- Nursing students at [Waynesburg University](#) volunteer time to provide free health care screenings at area nursing homes, food banks, and at the borough's Senior Center. These screenings help community residents and also provide valuable hands-on experience for nursing students.
- [Mount Aloysius College](#) modeled its three practicum emergency rooms on the three major hospital systems they serve, and have an active-duty partnership with one hospital system that trains and places dozens of new nurses and other health professionals every year.

These are just a few of the examples of workforce development partnerships that are already in existence at these independent nonprofit AICUP schools. I hope this list helps you in your work as you look for new ways to grow Pennsylvania.

Fourth, it is critical that we pay close attention not just to what specific skills a particular job requires, but what specific attributes is the employer looking for in the real life human being that will fill that job.

We all know that the world has changed more in the course of the first 20 years of our students' lives than in the entire lifetime of most of their parents and grandparents. Some would argue that the world has changed more in their first 20 years than in the 20 centuries before they were born.

Civil wars are waged now in countries that didn't exist a generation ago. Terrorism has replaced MAD (Mutually Assured Destruction) as the greatest threat on the planet, and the most recent Olympics showcased sports and countries that didn't exist a generation ago.

Not as noticeable, but every bit as important, is how the world of work has changed, dramatically, in our lifetime. All the power that was in the computer on the Apollo rocket that took a man to the moon now fits in an iPhone.

Work has changed too. Economist and author Peter Drucker explained the change in work this way—history may decide that the seminal product of the 20th Century might just be the Model T Ford, which consisted of 60% energy and raw materials and 40% human input (sweat) and ideas; the seminal product of the 21st Century may well turn out to be the computer chip, which is 98% ideas and human input and only 2% energy and raw materials.

Let me use some numbers to capture this speed of light change that defines the lives of today's students. For them, and for many workers already in the field, change isn't just a constant, it's exponential—happening so fast that it's hard even to catch your breath. What do I mean? Let me give you some numbers—four, ten, 250,000 and one million.

- ✓ Four, as in **exabytes**...that's 4 times 10 to the 19th power of unique, new information will be generated in the world this year--more information than was generated in the past fifty centuries together!
- ✓ Ten, as in **the warp speed of technology**. Think about it: when the radio was invented it took thirty-eight years to reach a market audience of fifty million people. It took Facebook two years. It probably takes Taylor Swift about ten minutes. "*Breaking news*" is an oxymoron for us.
- ✓ 250,000, as in **the average number of electronic messages** that a college graduate has sent or received--emails, texts, Tweets, TikToks, whatever. And if they are like my sons, that might be just this year!
- ✓ Million, as in **we are fast approaching a million words** in the English language...that's more than 5 times what Shakespeare had to work with in the 16th century.

And now we are at the cusp of the artificial intelligence A.I. revolution, a learning tool that may well turn out to be the most consequential tool of learning since the printing press, which many regard as the seminal product of the last 600 years.

Artificial Intelligence now aims to disrupt the workforce and, hopefully, elevate workplace productivity in ways never before imagined. Most of us have at least tried ChatGBT and similar Large Language Models and, I'm sure, been impressed --shocked even-- to see machine learning in real time deliver instant answers. A.I. might seem to have all the answers, at first glance, but the person using A.I. still needs to have the intellectual self-

confidence that comes from education to know if the answer they're seeing is correct or not, whether it's useful or complete rubbish.

That's because A.I. also hallucinates. Quite commonly, in fact. If we forgo education, put our arms up, and say, "let the machine do my thinking for me," [then we give up a lot](#). Because the fact is, as we've seen many times in the news recently, A.I. and ChatGBT can very easily produce wrong answers and outright fabrications. We still need educated *people* with [critical thinking](#) skills who can determine if an answer makes sense or is [relevant](#) to the task at hand.

Maybe that's why employers continue to emphasize critical thinking and communications skills when asked to rate the most valuable attributes they seek in their workforce.

The ability to use your hands to perform rote tasks, key requirements on the assembly lines used to build cars, has been supplanted by the ability to use your mind to think and adapt—these are the new, key workplace tools of the future—and that applies whether you plan to be a rocket scientist or a surgical technician, to work in a law firm or in a research lab, to make things with your hands as a welder or to build connections with your brain like an electrician.

William Butler Yeats put it differently when he said at another time and in another country that "the world has changed, changed utterly." It has, for all of us in higher education—in mid-matriculation.

We live in an age where life-long learning is no longer the exclusive province of erudite educators and professorial types. We live in a world where US Presidents as different as Reagan and Obama both believed that the world of work and the world of learning are "indispensable to each other." The reality is that "higher" education is just the beginning, not the end of a student's education.

We also live in a world where the person who enters the workforce today will have an average of 15 different jobs in their lifetime. My father worked 40 years in one electronics plant. I have had 8 jobs in 4 careers—apparently right on the average for my generation. The predictions by the experts in this sort of thing tell me that our three sons will have as many as fifteen different jobs in their lifetime, as technology, needs, capacities change over time. They might still do electronics like my dad did, but the technology will change so fast that they will have to go back to school in a sense to keep up with the new methods, tools, products, etc.

You've all seen the reports that we are now training people for jobs that don't exist yet. But will exist in 10, 15, 20 years. What does that even mean? Well, I think it means we have to focus on training the next generation of workers in how to learn not just in what to learn. And I think that one former U.S. Secretary of Education was spot on when he said that the challenge for education now is to produce graduates who are ready to adapt for that sixth, seventh and eighth job they will hold (of the 15 that this generation will have), workers who are "capable of synthesizing information from diverse sources, communicating that information with diverse cultures and being able in the end to make good decisions on the basis of that information and communication."

In the world students and future workers inherit, where change is constant—not the exception—work and learning, core values of our institutions, will be indispensable to each other. Learning how to learn, even as graduates begin to earn an income (with which to stay in school or to build a family), will be the primary prerequisite for the new economic world into which they will graduate. So higher education is fast becoming a

misnomer—it is just the beginning, in a real sense, of their lifelong educations—education that continues even as they enter the workforce. I think we ignore this truism at our peril.

So back to the question—what is it that employers want in their workers? In a December 2024 study by [The National Association of Colleges and Employers](#), employers were asked what attributes they seek on a candidate’s resume. The top five skills cited by employers were problem-solving skills, the ability to work in a team, written communication skills, initiative, and strong work ethic. All five of these skills were ranked highly by more than 70% of surveyed employers. Following closely behind the top five skills, and ranked highly by more than 50% of employers, were technical skills, verbal communication skills, flexibility/adaptability, analytical/quantitative skills, and being detail oriented.

Additionally, in a January 2025 study by the [World Economic Forum](#), employers were asked what core skills would be required for their workforce. More than 50% of respondents cited analytical thinking; resilience, flexibility, and agility; leadership and social influence; creative thinking; motivation and self-awareness; technological literacy; empathy and active listening; and curiosity and lifelong learning.

In both of these recent studies, the top skills employers see as key are all so-called “soft skills” – problem-solving, analytical thinking, teamwork, communication - that higher education has long known are crucial for student success and long-term employability. These findings are especially significant in a labor market that is rapidly evolving due to automation, artificial intelligence, and shifting economic demands. While technical skills remain important, *employers* are indicating that skills such as problem solving, critical thinking, and communication are what truly set candidates apart. Success in today’s workforce depends not only on technical expertise but on human-centered skills that allow graduates to think critically, collaborate effectively, and adapt to change. Ensuring students graduate with both technical knowledge and these high-demand skills is critical to prepare students not only for their first jobs, but also for jobs of the future that may not even exist yet.

Finally, I cannot leave here today without a few words on the value of a higher education degree.

Higher education has come under a lot of criticism in the last two decades. We live in an age where our trust in just about everything has gone down—partly a casualty of our 24/7 news cycle. Although higher education is still among the most admired sectors in America, right up there with churches, small business owners and the military—the trust level in all these institutions has declined in the last two decades.

At the end of the day, post-secondary education is still one of the best investments we can make in our lifetimes. Ben Franklin couldn’t have known how accurate he was when he wrote 250 years ago that “investment in education pays the best dividends.” According to repeated analyses by economists at the Federal Reserve Bank of New York, a four-year degree generates an annual return of 14% over a 40-year career—*annual* return. A college degree will show a rate of return more than twice the rate than if you just

put your college money into Dow futures 4 years ago, and 5 times the return for bonds, gold or real estate. If college were a stock, it would be the darling of Wall Street.

A March 2019 report from the United States House Committee on Education and Labor, [*Don't Stop Believin': The Value of a College Degree*](#), found that a college degree is well worth its cost, noting that a wide range of studies have concluded that bachelor's degree holders earn up to \$1 million more than high school graduates during their work lives. In other words, unlike consumer loans for cars and appliances, [student loans can be an investment](#) in one's quality of life (and life choices) and produce a large monetary return on investment as well. Bottom line, college grads are 3 and a half times as likely to improve their income and one's "position in life" as those who don't get the chance to go to college. They are a direct way to affect social and economic mobility.

We all know that the benefits of a college degree extend beyond just wages--the Pew Research Center has reported that college graduates outperform their peers with less education on virtually every measure of economic well-being, career attainment and "citizenship." College grads volunteer twice as often for local causes, donate three and a half times as much to local charities, and are twice as likely to build a small business in their hometown. Some of those tasks are all about citizenship, caring about your community, contributing to your community in tangible and intangible ways. Those are all concrete and documented benefits of a college degree—not that you can't do the same thing without one, but the chances are just greater that you will make those kinds of contributions if you got that degree in your back pocket.

I started off personal and will end that way as well. My grandparents came to this country with the equivalent of a grade school education. They found jobs as housecleaners, cooks, bartenders and night watchmen here in America—jobs they were delighted to have. Their children, my parents, got jobs as office receptionists (my mother), extra shift workers at the local Acme, car parker at funerals and third shift work at a candy factory (my father). In their late 20s, our Dad and his two brothers landed jobs at the local Honeywell electronics plant. The three of them put in 120 years between them on that shop floor. Their children, my brothers and sisters, have 25 degrees between them from community college to law school degrees; they all own their own homes, they all drive their own cars (none of our grandparents ever even had one or even ever felt the need to get a driver's license), they are all involved in their local communities in some productive ways—coaching youth sports, helping at a food bank, volunteering their health care skills at special events, serving on every committee their church asks them to.

My father, whose parents left their native land to escape pogrom and persecution, told each one of us to "get your education, because they can never take that away from you." That is as true today as it was in the 1970's when he first started making that statement to the 12 of us as we went off to college. Whether it is the printing press, the computer chip or artificial intelligence, these new short cuts to learning will keep coming. And the ability to learn, the interest in learning, *the commitment to lifelong learning* will be, as it is today, as essential to good citizenship and perhaps even more important to getting and holding a job.

Thank you, Chairman Argall, so much for holding this important hearing today. We are all in your debt for recognizing how important this issue is for all of us—whether on the higher ed or the workforce side of the economic equation.
