

The Bachelor of Science in Nursing and the Applied Baccalaureate Degree:

The Recommendation for Illinois Community Colleges

The Illinois Council of Community College Presidents

Introduction

“The United States has been underproducing college-going workers since 1980. Supply has failed to keep pace with growing demand, and as a result, income inequality has grown precipitously.” These are the words of highly respected authors Anthony Carnevale and Stephen Rose in their paper entitled *The Undereducated American* (Carnevale, Rose, 2011). They go on to forecast, “If we continue to underproduce college-educated workers, the large and growing gap between the earnings of Americans of different educational attainment will grow even wider.” Their report calls for adding 20 million postsecondary educated workers including 15 million with bachelor’s degrees to the economy. From their report they state, “The growing disparity in earnings between those with a college education and those without is the principal reason for this widening chasm.”

At the federal level, on February 24, 2009, President Obama issued a significant challenge to the American people and institutions of higher education--A challenge to increase our college graduates by 2020 so the United States of America would once again be the leader in college graduates. Specifically he said, "By 2020, America will once again have the highest proportion of *college graduates* in the world" (<http://www.ed.gov/college>). Arguably, this was a bold challenge but it is one that many college presidents across the country haven taken very seriously. Community colleges, in particular, have responded very aggressively and many community colleges have made increasing college completion the number one goal.

At the same time in Illinois, the P-20 Council which was established by the Illinois legislature in 2009 to foster collaboration among state agencies, education institutions, local schools, community groups, employers, taxpayers, and families identifies their primary focus as, “Our goal is to increase the proportion of Illinoisans with high-quality degrees and credentials to 60 percent by the year 2025.

Today, only about 41 percent of the state's nearly 7 million working-age adults (25-64 years old) hold at least a two-year degree (<http://www2.illinois.gov/gov/P20/Pages/About.aspx#mission>).

Nationally, there will be 55 million job openings in the economy through 2020: 24 million openings from newly created jobs and 31 million openings due to baby boomer retirements. In terms of necessary educational attainment, 35 percent of the job openings will require at least a bachelor's degree, 30 percent of the job openings will require some college or an associate's degree and 36 percent of the job openings will not require education beyond a high school diploma. Science, Technology, Engineering, and Math (STEM), Healthcare Professions, Healthcare Support and Community Services will be the fastest growing occupations, but will also require high levels of post-secondary education.

In Illinois alone, healthcare professional technical occupations are expected to see growth of 22 percent from 2010 (N = 278,470) to 2020 (N = 341,050). Similarly, occupations in the STEM field will see 16 percent growth from 2010 (N = 229,720) to 2020 (N = 266,480). In terms of job openings by education level, 68 percent of Healthcare Professional and Technical occupations will require a Bachelor's degree or higher. Similarly, occupations in the STEM area will see 65 percent of positions requiring at least a Bachelor's degree (Georgetown University Center on Education and the Workforce Report).

It goes, almost, without saying that our economy has changed dramatically in the last 30 years. The standard high school diploma, which was a ticket to a middle-income job, is no longer the meaningful credential it once was. That standard has been shattered with the advent of technology and the information age. The New York Times reported on February 9, 2013, "The college degree is becoming the new high school diploma: the new minimum requirement, albeit an expensive one, for getting even the lowest-level job. Many, if not most, jobs in today's economy require at least some postsecondary education and many are moving toward requiring the baccalaureate even in the most

technical of fields” (Rampell, Catherine, 2013). In another article written by Catherine Rampell for Econmix in December 2012 she wrote, “The wage gap between the typical college graduate and those who have completed no more than high school has been growing for the last few decades. In the late 1970s, the median wage was 40 percent higher for college graduates than for people with more than a high school degree; now the wage premium is about 80 percent” (Rampell, Catherine, 2012). In this same article, Burning Glass, a company that analyzes job ads from over 20,000 online sources ranging from major job boards to small and midsize employer sites, provides a look at the 10 occupations with the biggest percentage increases in requiring a college degree including: dental laboratory technicians, chemical equipment operations and tenders, medical equipment preparers, buyers and purchasing agents, electronics engineering technicians, dental hygienists, architectural drafters cargo and freight agents, photographers, claims adjusters, examiners and investigators. It is no surprise that higher education is undergoing the most significant paradigm shift in its history.

Leaders of community colleges in Illinois are evaluating and responding to all of these challenges as well as responding to local challenges presented by our workforce partners. Increasingly, those workforce partners want higher credentials for employees than the associate degree in in specific career fields. Specifically, the Bachelor of Science in Nursing (BSN) and Applied Baccalaureate degrees (AB) are identified as meeting the needs of our industry partners. After an extensive study by twelve community college presidents followed by a recommendation presented to the entire Council for a full and robust dialog given the seriousness of the topic, the Illinois Council of Community College Presidents (ICCCP) is ready to submit a recommendation that Illinois become the 22nd state to allow community colleges to offer a limited number of baccalaureate degree programs in applied fields.

Applied Baccalaureate Degrees

In 2009 Debra Bragg, professor of educational organization and leadership and the director of the Forum on the Future of Public Education at the University of Illinois stated, “the applied baccalaureate degree at community colleges can be used by students looking for a career that is emerging, or for adults who have earned college credits in the past and are looking to re-enter college, often to advance their careers to a supervisory level.” She goes on to state “the most controversial aspect of applied baccalaureate degrees, is that some are awarded by a community college. So far, only 10 states--Texas, Florida, Washington, Nevada, North Dakota, Ohio, West Virginia, New York and Hawaii have community colleges that are authorized to pilot or award baccalaureate degrees.” However, Bragg anticipated the number would grow. She noted, “earning an applied baccalaureate degree may provide a lifeline to underserved learners including first-generation college students both young and old and downsized workers who don’t hold a college degree but may have an associate degree, a technical certification or a high school diploma” (Phil Ciciora, Applied Baccalaureate Degrees at 2 Year Colleges Play Critical Roles, 2009, Debra Bragg, University of Illinois). In the five short years since Dr. Bragg’s article was published, the number of states allowing community colleges to offer baccalaureate degrees has grown from 10 to a total of 21, including Arkansas, California, Colorado, Florida, Georgia, Hawaii, Indiana, Louisiana, Michigan, Minnesota, Nevada, New Mexico, New York, North Dakota, Oklahoma, Texas, Utah, Vermont, Washington, West Virginia, and Wisconsin. It is a movement that has gained significant momentum and clearly has taken hold across our country.

A recent study conducted by the state of Texas, which approved community colleges to offer baccalaureate degrees, had this to say about the role of baccalaureate degrees in community colleges, “states are increasingly exploring the question of a greater role for community colleges in baccalaureate level education, asking ‘Should community colleges provide education beyond the two-year degree?’

Supporters argue community college expansion is needed to meet local workforce needs and support a robust economy. “ The report went on to state,

“Community colleges may be well suited to meet local workforce needs because of their connections with employers, their flexibility in creating and modifying programs, and the geographic mobility patterns of community college graduates. We found compared with universities, community colleges generally have a stronger connection with employers and a greater demonstrated willingness to work with employers to create programs that directly meet a workforce need. Some regional universities have placed an emphasis on workforce relationships and applied program development, but most universities have not made this a priority to the degree that most community colleges have. Because they attract working adults, community college baccalaureate graduates may be more likely to remain in the region and help meet local workforce needs, although increased degree attainment could also motivate them to migrate to areas with high demand” (Daugherty, Goldman, Butterfield, and Miller, *Assessing the Potential to Expand Community College Baccalaureate Programs in Texas*, 2013).

Mission Creep

Let it be said at the outset, there will be criticism of this recommendation. Some at the universities will view this recommendation as mission creep by the community colleges. But the ICCCP would also like to be exceptionally clear community colleges are not asking to become universities. Community colleges recognize the vital and irreplaceable role four year universities play in our educational environment and, thus, are not interested in offering baccalaureate degrees in traditional university driven fields such as liberal arts, humanities, business, teacher education and the like. The emphasis is solely on baccalaureate education in applied fields that are natural extensions of the workforce ready programs already offered through community colleges.

Mission creep is also a concern of some community college practitioners and trustees. These individuals are concerned that by broadening the current mission to include the BSN and/or the AB, community colleges will jeopardize the initial intent and focus of the comprehensive community college. Now that almost two dozen states have allowed this transformation, there is adequate evidence that offering several career focused baccalaureate degrees does not result in the erosion of the community

college mission. Instead, we see thriving and nimble community colleges that are effectively meeting local industry needs because they made changes.

In Florida, Eastern Florida State College was formerly Brevard Community College. And before that it was called Brevard Junior College. Over the years its name has changed but not its fundamental purpose. Eastern Florida State College continues to operate like a community college and now has in its arsenal of programs limited career focused baccalaureate degrees, which are intended to help address special workforce needs in the region requiring the baccalaureate degree.

Today Joliet Junior College is not the institution it was in the early 1900s when it was the first community college established in the United States. Like all community colleges, its mission has broadened from a transfer-focused college to include career education, developmental education and workforce development. Change was inevitable and planned change to meet dynamic community needs is preferred. Considerable change and mission expansion has occurred in most, if not all, community colleges for more than 100 years and most would agree the community colleges are the better for it.

The report issued by Texas also addressed this particular issue and it was a fear there as well. This was the response by the Texas group, "The evidence on mission creep is mixed. For example, although there has been rapid growth of community college baccalaureate programs in such states as Florida and Washington, the programs continue to account for a very small portion of enrollment at community colleges." The Texas research team's recommendation was to monitor going forward but not to deny approval.

The response, in some cases, is these applied baccalaureate degrees either are not currently offered or in the case of nursing are not meeting demand for those students who are older, nontraditional, and place bound. The ICCCP would prefer to examine and dispel the current and

prevailing notion that the colleges and universities need to compete head-to-head with each other. Instead there is an alternative view that would ask for higher education in the state of Illinois to expand the current relationships in ways which are collaborative, innovative, and cost effective for the betterment of our state and our country. Other states are leading the way in this arena and are showing good results. Again, Texas did respond to the university-community college competition and found in areas where needs were being met by the universities there could be some erosion to their enrollment. In areas where there was unmet need, such as nursing the authors note, "... this view does not account for the likelihood that offering baccalaureate degrees at community college will expand access for students who might otherwise not pursue a BA."

For community colleges, collaboration comes easily. The community colleges have always collaborated either with other community colleges, K-12 partners, or industry partners. It is the nature of what community colleges do. As just one example, over the last 10 years community colleges have learned that duplicating programs in several districts is simply not cost effective. In many instances, where there is statewide demand for a program but lower demand in a particular district, the local community college has partnered with another community colleges to allow their students to pursue that program at the in-district rate. Currently, there exists a cooperative agreement among 28 community colleges, which allows students to freely cross district lines for programs offered at another community college. The ICCCP would offer this very classic example of collaboration at its best and as a similar way to view this initiative.

A key question will be if legislation is passed to allow these applied baccalaureates for community colleges, what will prevent community colleges from wanting to expand and offer more baccalaureates later? This is a valid question and one that has an obvious and powerful response. The Illinois Board of Higher Education (IBHE) is the ultimate authority in granting degree programs and will remain as such. Community college districts would have to provide evidence for any new program as it

does now. More importantly, the IBHE will provide the oversight needed to ensure no baccalaureate programs in other non-technical are granted. The type of applied baccalaureate degrees proposed for community colleges are in areas that either are not being offered or are not meeting current demand, such as in the case of nursing. Kenneth Walker founder of the of the Community College Bacculaureate Association states, “universities aren’t oriented toward workforce-type programs in fields that increasingly require bachelor’s degrees. This really is a new need that emerged when the associate degree was no longer adequate to be competitive in the jobs market” (Marcus, 2014).

Funding

State funding is not required for this initiative. The ICCCP recommends student tuition and property tax revenue should be the funding model with no request for apportionment. As with other states, it is anticipated the third and fourth year tuition costs likely will be higher than traditional associate degree tuition. To be clear, many community colleges already utilize a variable tuition schedule for many of its career and technical degrees at the associate’s level. It is anticipated the third and fourth years of the BSN or the AB would follow the same model.

Demonstrated Need

The data and demonstrated need for an initiative like this are compelling particularly for the BSN. The 2010 Future of Nursing report, jointly released by the Robert Wood Johnson Foundation® (RWJF) and the Institute of Medicine (IOM), set two ambitious goals for nursing education to achieve by 2020: increase the proportion of nurses with baccalaureate degrees from approximately 50 percent today to 80 percent, and double the number of nurses with doctoral degrees” (Focus of Nursing Report, 2010). From an industry perspective, the report goes on to state, “43.7 percent of hospitals and other health care settings are requiring new nursing hires to have a bachelor’s degree in nursing (up 4.6 percentage points since 2012), while 78.6 percent of employers are expressing a strong preference for

BSN program graduates.” And yet, another statistic from the same report notes, “a 2013 survey of nurse executives revealed 90 percent preferred the hiring of BSNs. However, they were not able to meet this preference due to a lack of accessibility to BSN graduates and nurses” (Focus of Nursing Report, 2010). This report also found “fully 25 percent of qualified nursing applicants nationally were not accepted into nursing programs in 2012 due to a lack of capacity.” In addition, a 2012 survey of 2,744 Associate Degree Nursing (ADN) students in Illinois revealed 86.7 percent of them intended to pursue a bachelor’s degree” (Illinois Community College’s Registered Nursing Student Survey Report, October 9, 2012- not published).

It’s important to note “As an estimated 32 million Americans gain insurance under the Affordable Care Act (ACA), the current shortage of primary care providers (PCPs) will worsen, but nurses trained at the graduate level will help fill the gap. Nurse practitioners (NPs), who must earn a master of science in nursing (MSN) or a doctorate of nursing practice (DNP) degree, are the fastest-growing group of PCPs. By 2025 they are projected to double their numbers and near or top 200,000. Certified nurse midwives will also contribute by providing primary care services to women of childbearing age” (Charting Nursing’s Future, Robert Wood Foundation, 2013). It would appear the universities are perfectly suited to step in and provide the graduate education needed to meet the growing demand for these upper level positions, allowing the community colleges to aid in meeting the demand for the BSN. This strategy would allow universities and community colleges to collaboratively respond in a comprehensive way to the continued shortage.

Specific workforce data for the applied baccalaureate degrees is harder to identify and quantify. National trends in occupations traditionally requiring an associate degree for entry demonstrate an emerging, and compelling trend supporting baccalaureate degrees at the community college. The American Association for Respiratory Care, the professional organization for respiratory therapists, reached consensus at their third “2015 and Beyond” conference that the minimum standard for

entering the respiratory therapy field should be a baccalaureate degree. This decision was made despite community colleges, historically, being the provider of respiratory therapists. As of 2011, 87 percent of respiratory care programs were associate degree level offered at community colleges, with the remaining 13 percent being bachelor degree level offered at 4-year colleges. Reasons cited for the change focused on the increased complexity of the field, requiring more critical thinking, research and management skills in a variety of care areas such as critical-care medicine, pulmonary rehabilitation, neonatology, sleep disorders and cardiovascular diagnostics.

Similarly, the American Dental Hygienists' Association has made a similar recommendation to "implement the baccalaureate degree as the entry point for dental hygiene practice" (American Dental Hygienists' Association, 2005. p.18). A desire to seek a bachelor degree as a minimum point of entry is driven by the notion that,

"Accreditation standards for dental hygiene education leading to an entry-level position (a minimum requirement defined as two academic years) have not changed in nearly six decades, which may explain the fairly small number of students who directly enroll in a bachelor's degree program. However, the academic, intellectual, and technical skills required by the profession are expanding. In addition, the labor market for dental hygienists has changed. As the economic returns to higher education have increased, so have the professional opportunities for people holding bachelor's degrees or higher (American Dental Association, 2011, p.4). "

And the movement from associate degrees to bachelor degrees is not limited to allied health professions. For many in the automotive technician field the associate degree no longer provides the career security or advancement potential it had in the past. In a recent Baron article Randy Bryant, department head for Cupertino California De Anza College's automotive program, noted "it used to be an (associate of science degree) degree was enough to get you into a management position. Nowadays manufacturers want their technicians to have the technical know-how necessary to work on cars with 30 or more computers on board all talking with each other, and they want people with good management know-how: leadership, critical thinking and good communication skills" (Baron, 2014). Much of these

needed skills could be garnered in an automotive management bachelor degree program, which most 4-year colleges do not offer, but would be a synergistic fit in the community college.

Predicting future educational requirements for specific occupations is extremely difficult, but rest assured as diverse industries evolve, the demand for a more highly skilled, technical workforce is expected to follow. Consider, a mere 40 years ago, in 1973, 72 percent of jobs required a high school degree or less, while only 16 percent required a bachelor's degree or higher. By 2007, the percent of jobs requiring a high school degree or less dropped to 41 percent, while jobs requiring a bachelor's degree or higher doubled to 32 percent (Symonds et al, 2011). The Georgetown University Center on Education and the Workforce projects this number will increase to 35 percent nationally by 2020, and to 39 percent in Illinois. Overall, the percent of jobs requiring postsecondary education in Illinois will reach 70 percent by 2020, according to the Center, placing Illinois as the 10th highest state for educational job requirements in the nation (Carnevale et al, 2014). Burning Glass identifies executive assistants, computer user support specialists, computer network support specialists, electrical and electronic engineering technicians among other careers as those now needing a bachelor's degree in many markets. As the trend continues in Illinois and the nation, a greater number of bachelor degree trained employees will likely be demanded across a broad spectrum of applied fields previously requiring lower level educational requirements.

From 2006-2009, William Rainey Harper College championed the baccalaureate degree movement. At that time fewer than ten states authorized their community colleges to offer the applied baccalaureate degree. Nevertheless, Harper's then President, Dr. Robert L. Breuder, proposed a pilot program, involving no state subsidy, which passed through the Illinois House and fell a few votes short in the Senate. Since then, the number of state legislatures authorizing the applied baccalaureate has tripled as legislative leaders nationwide have seen the value in broadening the mission of their community colleges yet again to ensure business and industry has the skilled labor necessary to

compete in a global marketplace while simultaneously promoting quality of life in communities throughout the state. In response to a recent survey completed by the taxpayers of the College of DuPage district, regarding “how important is it for College of DuPage to offer bachelor degrees in select fields where job opportunities exist” there was an overwhelming response of 76 percent that it was extremely important. As Illinois’ population continues to age, retaining an educated workforce in critical disciplines is paramount. Illinois businesses and industries must become more competitive rather than less.

Business and industry provide evidence that the jobs of the 21st century look very different than the jobs of the last century. Ron Bullock, Chairman of Bison Gear and Engineering Corporation articulates this thought very clearly when he says,

“As the Chairman of electric motor and gear motor manufacturer Bison Gear and Engineering, and the Chairman of the Manufacturing Institute, I can say the need for workers at all levels in the field of U.S. manufacturing is on the rise. There are numerous job opportunities for people with the right skill sets and credentials. Graduates with a Bachelor of Applied Technology degree in manufacturing will be well positioned for promotions into management positions at companies like mine. The value in the B.A.T. degree is that it allows for additional skills beyond the technical skill set, skills that include problem-solving skills, management theory, and performance improvement. I fully support the creation of a four-year option at our state's community colleges for students to have this opportunity. It's good business, and it is good for the state.”

Debra O’Donnell, Vice President, Chief Nursing Officer Central DuPage Hospital has this to say about the need for more bachelor’s prepared nurses,

“As the Chief Nursing Officer and Vice President for Patient Care Services for the West Region of Northwestern Medicine, I feel that that the future of healthcare is dependent on a workforce that is educated in a truly holistic manner. What this means, is that our future healthcare professionals should not just be trained on the technical aspects of their profession. They need to enter the workforce with knowledge and skills in leadership, financial management, quality improvement, the science of patient safety, community assessment and engagement, and the ability to communicate effectively. That said, it is essential that we support further development of baccalaureate prepared employees through expanded access to these programs throughout our state.”

And lastly, Don Sharp, President of Coolfire Solutions echoes those same thoughts for the IT industry when he says,

“Today’s employees need to have skills that far surpass just the technical. We assume that our employees will have the technical skills when they complete a strong technical program. However, at Coolfire Solutions, we hire candidates who have baccalaureate degrees because we want employees who have competencies in areas outside the technical arena, such as critical thinking, leadership, communication, team-building, time management and problem solving, as well as training in technical specialties. It is essential that four-year degrees in Information Technology become more accessible, and we fully support the efforts of community colleges to provide that access to everyone.”

There are more thoughts from business and industry in the addendum with additional businesses represented and letters of support.

Conclusion

In summary, the ICCCP believes the time has come to have this very important dialog about the state of our future workforce in Illinois. The ICCCP specifically recommends allowing for the limited approval of applied baccalaureates and the BSN to be offered through Illinois’ community colleges. Twenty-one states across our nation already have approved community colleges to be providers of limited applied baccalaureate degrees, as well as the bachelor of science in nursing, and there is a desire for Illinois to be the twenty-second.

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Addendum: Testimonials

Baccalaureate Applied Technology/ Baccalaureate Applied Science

Today's employees need to have skills that far surpass just the technical. We assume that our employees will have the technical skills when they complete a strong technical program. However, at Coolfire Solutions, we hire candidates who have baccalaureate degrees because we want employees who have competencies in areas outside the technical arena, such as critical thinking, leadership, communication, team-building, time management and problem solving, as well as training in technical specialties. It is essential that four-year degrees in Information Technology become more accessible, and we fully support the efforts of community colleges to provide that access to everyone.

Don Sharp
President
Coolfire Solutions

As the Lead Recruiter for the McDonald's Corporation IT Solutions organization, I've observed a transition within the industry over the last 7 years or so. Like many companies, McDonald's has learned to embrace IT professionals who are also very business savvy as well as show outstanding leadership and communications skills, rather than those who are simply just technically strong. Our highest performing individuals tend to be the ones who draw from a multitude of experiences and diverse backgrounds, including a well-rounded. 4-year education.

Reggie Wooten
External Workforce Business Partner
Global Workforce Solutions
 McDonald's Corporation

There exists a growing demand for skilled entry level software developers and technologists possessing a bachelor's degree in the marketplace. With the costs of existing 4-year college tuitions rising above the means of many families, the prospect of community colleges providing a cost-effective option is an obvious solution. There are many companies within the I-88 corridor that would benefit greatly from having a qualified technical candidate pool in such close proximity.

John Antuna
Sr. IT Manager
Application Support and Development
Navistar

In speaking with business leaders around the country, I've heard their concerns about finding skilled Information Technology workers who are prepared to adapt to meet the rapidly changing needs of the business community during the course of their careers. Being able to pursue a chosen field of study more deeply and supplementing it with the additional skill sets that a baccalaureate degree in Computer Systems & Technology can provide will help set students apart as they pursue employment in Information Technology.

Jack Kramer

Senior VP, Customer Perspective
Ellucian

As the Chief Nursing Officer and Vice President for Patient Care Services for the West Region of Northwestern Medicine, I feel that the future of healthcare is dependent on a workforce that is educated in a truly holistic manner. What this means, is that our future healthcare professionals should not just be trained on the technical aspects of their profession. They need to enter the workforce with knowledge and skills in leadership, financial management, quality improvement, the science of patient safety, community assessment and engagement, and the ability to communicate effectively. That said, it is essential that we support further development of baccalaureate prepared employees through expanded access to these programs throughout our state.

Debra O'Donnell
Vice President, Chief Nursing Officer
Central DuPage Hospital

As you know, there is a growing volume of research that suggests patient outcomes are improved when care is delivered by nurses prepared at the baccalaureate or higher level in nursing. The Institute of Medicine has recommended that 80% of direct care nurses be prepared at that level by 2020. Like many other organizations, Edward Hospital is working diligently to achieve that goal. As a result, we have limited our hiring of nurses prepared at the Associate Degree or Diploma level. With a nursing shortage looming on the horizon, more nurses prepared at the baccalaureate or higher level in nursing are needed in the state of Illinois.

Patti Ludwig-Beymer
Vice President and Chief Nursing Officer
Edward Hospital

As a senior IT project manager at Citigroup, I manage application software upgrades and new applications for various business functions. All of my developers, quality control testers, test managers, and many of my peers and business analysts are from overseas. It would be wonderful if local IT talent was available instead of relying on outsourcing our IT jobs. To be employed by Citi and to get in the door for an interview, candidates are required to have a 4 year degree no matter how technically proficient they are. A 4 year degree would provide them with good communications skills, knowledge of various functional business groups and also a more strategic, global look at business operations. Almost all the applications at Citi are global so those IT resources must have a deeper knowledge of how business groups relate to each other and function. From a technical standpoint, 4 years would give more time for other technical classes such as different languages, big data, analysis of data, etc that are in demand. Those students who don't have the means of going away to a 4 year school but desire to have a great career in life would certainly benefit. I think the question is 'Why not?'

Marti Henning, Senior IT project manager at Citigroup

Bison Gear and Engineering Corporation

As the Chairman of electric motor and gear motor manufacturer Bison Gear and Engineering, and the Chairman of the Manufacturing Institute, I can say the need for workers at all levels in the field of U.S. manufacturing is on the rise. There are numerous job opportunities for people with the right skill sets and credentials. Graduates with a Bachelor of Applied Technology degree in manufacturing will be well-positioned for promotions into management positions at companies like mine. The value in the B.A.T. degree is that it allows for additional skills beyond the technical skill set, skills that include problem-solving skills, management theory, and performance improvement. I fully support the creation of a four-year option at our state's community colleges for students to have this opportunity. It's good business, and it is good for the state.

Ron Bullock
Chairman
Bison Gear and Engineering Corporation