Senate Committee on Small Business and Entrepreneurship

Field Hearing: *How Innovative education systems can better prepare students to enter the workforce*

Witness Testimony by: Sandra Partain, Dean of Technology, Engineering, and Mathematics
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Chairman Vitter, Congressman Fleming and Members of the Committee:

Thank you for the opportunity to speak with you today about the efforts Bossier Parish Community College has made to improve our education systems and better prepare students to enter the workforce. As the Dean of the Division of Technology, Engineering, and Mathematics, I am fortunate to have a team of innovative faculty and staff who don't mind tackling challenges as they champion for our students.

Ranked as one of the fastest-growing community colleges in the United States by *Community College Week*, Bossier Parish Community College is faced with a growing number of students each semester who believe that a two year Associate's degree is the best plan for their future. Our faculty and staff have been tasked to do more with less. Innovation is the best solution for a school reaching to deliver the best education to more students each year with depreciating resources.

Our Division is home to three US Department of Labor Trade Adjustment Assistance Community College and Career Training (TAACCCT) grants. We are using these funds to transform delivery methods and accelerate credential attainment in the cyber technology, advanced manufacturing, and advanced welding career pathways. These programs will serve more than 1,900 TAA-eligible workers, veterans, and other individuals in the northwest region of Louisiana using three major innovative strategies: 1) Develop and implement stacked and latticed credential and degree pathways for the Cyber Information Technology, Advanced Manufacturing and Mechatronics, and Advanced Welding Program curricula by using work-

based learning, industry-driven competencies, and advanced technical skills; 2) Build on and incorporate online technology and simulation-based software to supplement training, provide for academic remediation, maximize student access to training, and analyze the cognitive tasks associated with advanced training and technical skills; 3) Link other degree pathways and programs with internship and apprenticeship opportunities to broaden access and accelerate students' path toward employment, further articulation, and credential attainment.

Through gap analysis reports from Economic Modeling Specialists, International (EMSI) and the Department of Labor's Occupational Information Network (O*NET) service, occupations projected to add the most new jobs include: Information Technology Fields, Industrial Machinery Mechanics, Installation, Maintenance, and Repair Workers. A major gap identified in the report concerns the level of education in the labor force. In the manufacturing field, the majority of workers (55%) have an Associate's Degree or lower. However, workers in this field are relatively experienced as 64% have 6 or more years of experience. EMSI noted that "At the Associate's degree level, Industrial IT occupations face the largest gap; there are 178 annual openings compared to 10 average annual completions."[1] In addition, O*NET Online notes that Welders, Cutters, and Welder Fitters are also in demand and, according to the Bureau of Statistics, has a projected job growth of 3%-7% from 2012-2022.[2] Some of the gaps identified, include a disconnection between education and industry-based certifications; confusing educational career pathways; and a lack of modern, technologically advanced equipment.

Research shows that sector initiatives and career pathways work when training in technical occupations at an accelerated rate. Participants in sector-focused training programs: 1) earned

[1] Gap Analysis Report for Bossier Parish Community College by EMSI; 2013

[2] O*NET OnLine summary report for 51-4121.06—Welders, Cutters, and Welder Fitters; http:www.onetonline.org/link/summary/51-4121.06.

significantly more; 2) were more likely to work and, in the second year, worked more consistently; 3) (if employed) had significantly higher earnings; 4) (if employed) were working more hours and were earning higher hourly wages; and 5) were significantly more likely to receive benefits.[3] Further studies show that specifically, adult learners--especially TAA-eligible--have obtained knowledge and training on the job and have a motivation to get trained and go back to work quickly. By aligning the programs in a sector-based design, credential attainment and articulation are accelerated. Additionally, by aligning with other programs, pathways can be used to broaden access for students as well as accelerate student learning.[4] One significant obstacle for many non-traditional, adult learners is the intimidation of returning to school with the complex programming often associated with obtaining a college degree.

To help remedy this issue, our division has incorporated career coach advisors in many of our technical degree pathways. A recent study demonstrates that intensive coaching increases retention graduation rates by 10 to 15% and is found to be cost effective when compared to other traditional retention strategies, such as financial aid.[5] These coaches are available to take students at the point of admission and help them navigate career pathways by advising on course schedules and other wrap around services like completing administrative paperwork and locating tutoring and other services on campus. For our division, this is now considered a best practice for programs in technical career education.

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[3] *Job Training That Works: Findings from the Sectoral Employment Impact Study*. Sheila Maguire, Joshua Freely, Carol Clymer and Maureen Conway, published by Public/Private Ventures, P/PV In Brief, Issue 7, May 2009.

[4] M. Conway, A. Blair, & M. Hellmer (2012). *Courses to Employment: Partnering to Create Paths to Education and Careers*. The Aspen Institute.

[5] Bettinger, Eric Baker, R. "*The Effects of Student Coaching in College: An Evaluation of a Randomized Experiment in Student Mentoring: An Evaluation of a Randomized Experiment"* (March 2011) National Bureau of Economic Research No. 16881

In an effort to help all students who require remediation, BPCC's award-winning Open Campus© program has been used to integrate basic skills into core technical classes following the IBEST teaching model established by the TAACCCT 2 award. Open Campus was chosen as one of three educational programs world-wide to receive the *Blackboard's 2014 Catalyst Award for Innovation*©. This program delivers all the developmental classes offered at BPCC in a free MOOC (Massively Open Online Course) format and has been accessed by users in more than 118 countries across the globe. These online courses are taught by BPCC instructors and feature lectures and other materials used in the classroom. This is a valuable tool for students who have to start with developmental courses. The IBEST (Integrated Basic Educational Skills Training) teaching model was developed in Washington State to address the overwhelming concern about the percentage of students who graduate high school or who return to college, but who aren't yet ready for college level courses. Nationwide, roughly 2% of students who begin in remediation reach graduation. It is necessary to innovate in the area of developmental and remedial education. Integrating those skills into core technical classes allow students to begin school taking college-level courses while gaining the remedial skills needed through integrated exercises using English and Math skills.

Finally, working directly with industry has become critical to the success of our students being placed directly into the workforce after graduation. Industry-based credential attainment and direct contact with employers have provided job placement opportunities for our graduates. Our TAACCCT 3 award focuses on the growing needs in the Advanced Manufacturing and Mechatronics areas. It's a new day in manufacturing. Today's employers need employees with advanced skills. They need problem solvers and trouble shooters. They need employees who have savvy computer, programming, and mechatronic skills. BPCC is excited to work with

Louisiana Economic Development FastStart program to bring a state-recognized, industry certification--Certification 4 Manufacturing, or C4M--to our area that is rising to meet our area industry needs in Advanced Manufacturing. This program consists of four college courses that can be completed in one semester (16 weeks) and covers the essential skills needed in the modern manufacturing environment. This short-term program is ideal for non-traditional students who want to work in the manufacturing industry, but who require training in this area. The average age of individuals in this program is 39 and the average student has some experience in workforce, albeit not necessarily manufacturing experience. Through the TAACCCT 3 award, the rollout of this program has been a team approach to both implementation and job placement. This award has funded personnel within my division who meet regularly with area manufacturers. Shreveport-Bossier is home to more than 39 area manufacturers. Most of these manufacturers are small businesses and employ 50 people or less. Other large manufacturers, like Benteler Steel/Tube, have moved into our area and will employ more than 500 people. It is critical that BPCC continues to have a program that meets the needs of the industry as a whole rather than meeting the needs of one or two individual employers.

Working directly with employers has been key to the program's success in placing students. More than 10 area manufacturers are working with the TAACCCT 3 team to drive curriculum in this area and hire students upon graduation. These employers meet regularly with Program Directors and faculty to give input on the skills being taught in the program. Furthermore, these employers come to campus several times a year and participate in a round-robin interview day where each of our graduating students get a 15-minute opportunity to interview with each employer. From that initial meeting, employers contact students for second interviews and in many cases, job offers. In the year that this program has been in place, more than 80 students

have been retrained, over 800 interviews have been conducted, and to date 30 graduates have re-entered the workforce earning a better living wage. Some of our students are first-generation college students. Some have decided to continue their education and to pursue an Associate Degree in Applied Science. This innovative program is meeting the needs of all of these students by working directly with them on an individual basis and working directly with business and industry in both curriculum and credential development. This process including job placement has become a best practice for our division and our school. It is important that higher education continues to work with industry leaders to make sure our students graduate with the credentials and skills necessary to be employed.

Looking toward the future, career and technical education will see a resurgence in popularity. With the return of traditional trade skill education like apprenticeship training and work-based training opportunities, students will have the opportunity to learn a true trade skill providing for a lifetime living wage. BPCC will continue to work hand-in-hand with employers to make sure that students are trained for high-demand, high-wage workforce opportunities. Our future goals include the establishment of a flagship weld shop in northwest Louisiana with the TAACCCT 4 and state grant awards to add another option for our students who want to learn a profitable trade skill. Traditional academics is being merged with workforce development to create a new age in education valuing career technical education as the marketable trade skills necessary for our students to prosper in Louisiana.

Thank you again for the opportunity to appear before you today. I am happy to answer any questions you may have regarding our programs at BPCC.