

“Presidents’ Roundtable” October 3, 2018,
Kansas City Kansas Community College, host of ATEA region 5 conference, October 4-5.

ATEA invites presidents from Region 5 to attend the Roundtable to identify key topics and issues in the region and for presidents or their designee to meet one another to build the connections. ATEA Board President, Dr. Bryan Albrecht, President and CEO of Gateway Technical College, Racine/Kenosha, Wisconsin moderated the discussion.

Attending were:

- Dr. Greg Mosier, President, Kansas City Kansas Community College, Kansas City, Kansas, host of Region 5 2018
- Mr. Cliff Smith, Associate Chief of Facilities and Services, Kansas City Kansas Community College, Kansas City, Kansas, ATEA Board Trustee and Chair of Region 5 2018.
- Dr. Carrie Brimhall, President, Minnesota State Community and Technical College host of Region 5 2017
- Mr. Ryan Purdy, President of Mid-Plains Community College, host of Region 5 2016
- Dean Clark Coco, Dean of Washburn Institute of Technology - Washburn Tech, Topeka, Kansas.
Kerry Norbury, Associate Director of Admissions, Washburn Tech
Alan Beam, Director for Instruction of Washburn Tech.
- Dr. Ann Bolman, President of Western Dakota Technical Institute, Rapid City, South Dakota.
- Dr. Scott Mickelson, President, Dawson Community College, Glendive, Montana
- Mr. Ron Fleischman, Interim Dean of Career and Tech, South Central Technical College, North Mankato, Minnesota
- Dr. Mark Englert, Vice President, Gillette College, Gillette, Wyoming and ATEA Board Trustee
- Ms. Diane Stiles, Vice President for Academic Affairs, Lake Area Tech, Watertown, South Dakota
- Mr. Brooks Jacobsen, Supervisor of Electronics and Robotics Programs, Lake Area Tech, Watertown South Dakota, ATEA Board Trustee
- Dr. James Sherrard, Chair, Nuclear Programs, Three Rivers Community College, Norwich, Connecticut, ATEA Board of Trustee
- Mr. Al Bunshaft, Senior Vice President for Global Affairs, Dassault Systemes for the Americas, Waltham Massachusetts, ATEA Board Trustee, Chair of ATEA Region 1 conference November 7-9, Waltham, Massachusetts

Key topics

Technical educational institutions’ role in economic development is both workforce training and also renovation and repurpose of vacated buildings that then spurs growth.

How it was done in Kansas City Wyandotte County and the importance of a leader with vision and the tenacity and support to see it through to a quality product.

KCKCC has two campuses, the main campus and the Dr. Thomas R. Burke Technical Programs Center that are a mile and a half apart. Between them is an Automotive Technologies Program, Automotive Collision and Fire Science Training Center. The automotive programs are in what was originally an auto dealer and service area. The Technical Programs Center is in a former Walmart and adjacent strip mall. The quality of the renovation of those buildings is a credit to Dr. Burke, former President, to Cliff Smith and to those with the foresight to fund the renovation. It is a quality product that spurred economic growth and a building boom in Wyandotte County which is growing twice as fast as the counties in the

area. There are plans for 29 projects totaling \$547 Million for the adjacent area. In the past five years there has been \$1B in investment in the area and thousands of jobs. The office park has 1300 jobs. Dean Clark Coco, Washburn Tech Topeka, Kansas, commended Cliff Smith on his vision of what the technical education center could be and his tenacity that delivered it.

President Mosier, KCKCC, spoke of Cliff Smith's accomplishments with the Technical Education building, "Cliff was the architect of this building, and the driver of how successful it is."

Importance of letting the community and technical education stakeholders know how the colleges are contributing.

KCKCC helped the Agriculture Hall of Fame with HVAC repairs. KCKCC provides community service for low income and elderly in their skill areas as part of their learning experience.

Importance of corporate and business relationships for colleges and for ATEA. Employers are looking for skilled workers with both knowledge and skills.

Al Bunshaft, ATEA Board of Trustee and SVP, Dassault Systemes producer of Solidworks software, talked businesses using digitization to plan their products and placement. He finds that industry is supporting experiential learning both for skill development and for practicing the soft skills of reliability, trustworthiness, communication, problem solving, and engineering and scientific skills. Business leaders realize they need to ensure that their businesses have the personnel resources and skills to keep the business viable.

Direct experience with the speed of change in manufacturing instruction and lab experience.

Brooks Jacobsen, Supervisor of Electronics and Robotics, LATI, takes his students every two years to the International Manufacturing Technology Show, ITMS, in Chicago. It expands their thinking from might a college or lab experience to a global perspective of automation, robotics, and software integration. It is a 13 hour drive but worth it. Brooks has attended with his students for the past 12 years. He found the show has transitioned from a focus on machines, lathe, and mill, water jets to everything with a robot or cobot attached to it. LATI is getting two cobots with automated guided vehicles. Automated guided vehicles in the classroom and labs were not part of a robotics instructors thinking two years ago. An example of how fast and extensive change is, several years ago 3D printing had few booths and it fills an entire building. The speed of change has educators, students and industry partners attending the same trade shows all learning at the same time.

Bryan Albrecht commented that Industry 3.0 based on CNC machines and PLC's is 40 years old. Industry 4.0 machines communicate with each other. Industry 5.0 is the personalization of the product line and equipment, built by robots that respond to one another.

How to leverage the rapid response requests, from business partners, even though you may not have the internal capacity to make it happen.

Clark Coco encourages industries to not only think about product design and placement but also how you are going to get a talented workforce. One way is invest in coaching and mentoring to identify pathways of a career from positions available to them when they graduate from a technical program.

How to bring education and industry together.

Dean Coco encouraged a close look at a pathway, what are the influences on the pathway, what jobs are going to be out, and what skills are going to be for someone successful with competencies in that area.

Diane Stiles, VP Lake Area Tech, created a Workforce Alignment Interdisciplinary Degree, which took all of the statewide electives that are under the technology division and asked the employer to create the certificates they needed. LATI adds courses if needed. The pathways created by employers are on the website for students to see what is needed by those employers. Cummins, Honda are two of the employers. The students in high school know they can take the dual credit course and get on the pathway before they graduate.

Bryan Albrecht, an individualized degree is almost an individualized customized certificate for industry 5.0.

Mark Englert, Vice President, Gillette College, commented that employers in Wyoming are interested in knowing specific skills so the interest is in less than a degree and more in a portfolio.

Ann Bolman, President of Western Dakota Tech finds the same challenge and solutions of customized certificates but has the added challenge of a nine month school year. Barriers to customization for students and employers is historic schedules.

It is possible to start a program in customized training in two weeks. Employers often do not know the full range of programs that colleges offer.

“Build South Dakota” funded by the State of South Dakota and Denny Sanford gives each college \$1M per year for five years for a total of \$25M to provide a full “ride” for hygiene and technical careers. There are 4 techs in South Dakota. LATI leveraged the \$1M with business partners and raised a match of \$1.2M. The students commit to the industry partner for 3 years. It is similar to an apprenticeship program.

The value of a national advisory committee

Dr. Jim Sherrard has sustained a supportive relationship with the nuclear industry for the past thirty years. He is a retired military who moved to education at the same time as the Three Mile Island Nuclear disaster. Federal law required an education component for power plant licensure. He created the program that trains for operating power plants and nuclear medicine. His program receives \$400,000 per year for scholarships and internships with no obligation to the students. The key to the programs longevity is the Advisory Council of 33 members, 5 of which are academic from 4 year universities, University of Massachusetts and Penn State are two of them. The department chairs talk with business and industry that are not only from New England but from Nevada, Texas, and North Carolina. The f

First Friday of December, the advisory committee meets to Connecticut.

His advisory committee looks at every course in the program to determine if it still fits and if so, should it be updated. It seems that nuclear and health physics have changed but change is coming as modular nuclear power generators come on line. We will create elective courses, whatever it takes to make our students adaptable to fit the changes in the industry.

The national board is a great resource, members also include competitors to the nuclear industry, and GE and Westinghouse are two of them. They are all there in unity.

Larger companies think of talent development which benefits all of them. It is a bigger conversation. The students also realize they can be employed in other locations and industries which build enrollment.

Students participate in the related professional association.

Dr. Sherrard's program mandates that his students either full time or part-time become members of the American Nuclear Society or Health Physics. There are chapters on campus and each has dinner meetings. He takes his students to the dinners which are near Boston, (from Norwich Connecticut) so they can network and meet other business and industry representatives which has opened up opportunities for students.

He also has them read the literature from the Society of Manufacturing Engineers.

Millennial challenges and other challenges to job longevity

Dr. Sherrard finds a new challenge with millennials who say they will not consider more than a five year commitment to an employer. They can earn \$100,000 a year but that is not a factor in their choices. His approach seems to provide a foundation for this evolving career approach.

How to manage completion among programs for equipment and funds for student trips and building advisory committees

At Mid-Plains, had relied on employers for surplus equipment. Ryan Purdy in his first year as president, convinced his board for a half million structural equipment and each of the six years as president \$300,000 has gone into the budget for equipment. This is \$2M that is mainly for heavy technical programs like auto body, diesel mechanics, welding, HVAC, building construction, electrical, nursing, lab tech, fire science have gotten the bulk of the funds. We have renovated and updated "every square foot" of the campus. How we decide is by looking at the age of the equipment, what we are training for, what is the industry standard. The faculty know they need to "pull their weight" by being current, recruiting students to get the \$200,000 for the program. The faculty help to recruit and sustain the program.

We have 4 campuses, 1500 students and cover 20,500 square miles of Nebraska. We have classes

An instructor can make the difference on delivering a program needed in a region and the nation.

Dr. Scott Mickelson, President of Dawson Community College, Glendive MT. Dawson is a small college but has focused on programs needed in the region, one is corrosion. We needed to go out to find and hire talent for eastern Montana. It took us two years but we found an instructor with all of the NACE certifications. Dawson worked with NACE to create a training site on the Dawson campus. The instructor teaches all of the industry standards for pipeline and for corrosion, coatings, and lime. It is one of the few programs in the nation to address the billion dollar corrosion problem.

Corrosion is a problem for municipal water systems as well as oil and gas pipelines.

Source of talent to deliver technical programs is a real issue

Clark Coco emphasized that industry partners are needed to work with education to source talent from their companies. Industry trainers are needed to supplement faculty or to train them.

Math and English faculty positions attract sixty applications, but welder zero. Wages are the issue. A welder can get \$100,000 a year and a beginning faculty position is not near that.

The same is true of nursing. At LATI they have a team of leaders from across the state in different sectors. They bring the problem to them and not make it about the pay but access to future employees. That is a way to get adjunct instructors who may become full-time.

At Gateway Technical College faculty are asked to look for potential candidates for adjunct faculty and advisory committee members. When a part-time position comes open the relationship works to bring in new faculty. Another source is secondary educators. Another strategy is to diversify full time with part-time to get the advanced technology.

South Dakota did an industry adjustment from a sales tax that goes directly towards teacher pay at k-12, technical institutes are connected to k-12, so LATI can pay competitive salaries with industry on a day to day basis. Faculty get paid different rates.

In Wisconsin, the local board makes the decisions so the salaries are public. Faculty know the salaries of their colleagues.

One state has two faculty unions, technical and academic. Masters and Ph.D.'s can make less than a technical faculty or nursing faculty.

Dr. Brimhall, Minnesota has a best practice of leveraged equipment program that matches an industry donation. It is an allocation that an industry can match.

A concern that Dr. Brimhall has is industry deciding they will take on training as happened in North Platte with Union Pacific taking training inside. Amazon has hired a chief academic officer. AACC has projected that by 2025 there will be a disruption in the education industry. It may be time to start over and figure out how to be ready for seven years from now. Economic Development Corporations have training centers because they can make money from it.

Bryan commented that Chambers of Commerce have directors of academic programming.

Education is facing more than rivals, it is facing disruptors from substitutes, suppliers, customers and new entrants.

Sandra Krebsbach, academia looks at other credit awarding institutions as rivals. There is more to it, there are new entrants, suppliers, customers and substitutes to look at. Education needs to move from improving the same numbers such as placement and graduation to innovation. Curriculum can be redesigned in 30 minutes but take a year to move through the academic process.

Foreign nationals working in the US

Jim Sherrard has found that other countries have engineers but do not have technicians especially in the nuclear power industry. Two year colleges do not have dormitories to house students. There are many quality programs that would fill with students on a student visa.

Creative marketing of programs-think both outside the box and send a box.

Clark Coco sends shipping boxes with photos of Washburn Tech students to prospective students. They get opened and cost about \$5. Students are invited to activities It is very effective with donors and employers. They are good for thank you notes.

Another creative event is “signing day” for students who comment to attend a technical program, especially through NC3.

Parting thoughts

Al Bunshaft, Industry 5.0 is beyond 4.0. Dassault Systemes is based outside of Paris. 4.0 was positioned as the automation and digitizing of manufacturing. What 5.0 is about is new ways of doing business, completely new business models, what we think about as supply chain management and the manufacturing process is now undergoing an Industry Renaissance. It is the coming together of not only engineering but scientists, engineers, and artists.

Clark a former basketball coach had this advice for students and higher education. “At some point, just shoot the d...m thing!” Don’t get too bogged down that higher education tells us to do. Use technical education to scaffold the next layers of what you want to do, do the AST program and you may go on to mechanical engineering.”

Other ideas are offering graduates discounts when they are back from training sponsored by their employers.

What can ATEA do to help the customization of the learning experience?

Carrie Brimhall, would like to hear from people like Al Bunshaft, thought leaders in business and industry that are pushing the envelope of what’s acceptable, to learn how to change higher education rather than have higher education drive it.

Al ATEA can play the role of awareness of technical education. Technical education is not considered. Technical education provides cost effective relevant skills.

Scott Michelson, 40% of Montana’s high school graduates do not go on to any higher education. What he would like to see ATEA do is convene a think tank at the national conference. He heard great ideas here on how to attract those 40% who could go into technical education but may not know much about it. A think tank could help engage schools and states to attract the 40%.