







55TH NATIONAL

CONFERENCE



HOSTED BY GATEWAY TECHNICAL COLLEGE

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Director for Workforce Training and Community Education, North Idaho

ATEA JOURNAL

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The American Technical Education Association (ATEA) was founded in 1928 and incorporated as a non-profit professional education association in 1960. In 1973 the national headquarters was moved from Delmar, New York to Wahpeton, North Dakota. In 2012 ATEA relocated to the Dunwoody College of Technology, Minneapolis, MN. ATEA is the only autonomous and non-affiliated international association devoted solely to the purposes of postsecondary technical education. ATEA is the leading association for the postsecondary technical educator with emphasis on professional development. Educators and individuals from business and industry come together at conferences to discuss the latest trends and developments in technology. The organization is dedicated to excellence in the quality of postsecondary technical education with emphasis on practical teaching ideas and best practices.

Fall/Winter 2016 | Vol. 44 No. 2

From the Executive Director and Managing Editor



The American Technical Education Association had a strong finish to 2017 with 3 major fall events. The *Journal* has summaries but go to the website for full recordings of keynotes and panels www.ateaonline.org . QR codes are embedded in the text for easy access.

ATEA Region 5's fall conference partner was Minnesota State Community and Technical College hosted in Moorhead. There were tours of employers, significant in their size and service to their sectors. A technical and skilled workforce is key to their success. Thank you to President Peggy Kennedy Ed.D. of Minnesota State for partnering with ATEA.

ATEA Region 1 held a *Summit on Workforce* hosted by Sussex County Community College, Newton, New Jersey, with support from the New Jersey Community College Consortium. Leaders in workforce, community colleges, the chamber of commerce and local elected officials attended. New Jersey Commissioner for Workforce and Labor, Aaron Fichtner, Ph.D. and California Community College System's Vice Chancellor for Workforce Development and Digital Futures, Van Ton-Quinlivan provided "cornerstones" from their states on what is needed now.

Region 3 and 6 held an ATEA members conference in Reno, Nevada, with a tour of the Tesla Gigafactory. Truckee Meadows Community College provided the substance of the conference with an economic development workforce panel and a presentation by Barbara Walden, Director of Technologies. The Washington Centers of Excellence provided a second key panel.

Common points from the three events on what is needed in workforce development now:

- Stackable courses and curriculum
- Workplace recognized credentials and badges that verify new workplace soft skills.
- Scale programs by dividing course into .5 credits, plan for scaling
- Identify Metrics to measure and provide the data in visible and understandable ways

Region 4 has a report from Board member Dr. Betty Reynard on how her college, Lamar State College Port Arthur, Texas, experienced and served during Hurricane Harvey. Region 2 hosted the 2017 outstanding national conference in March which was covered in the spring edition.

On to the ATEA national conference, hosted by Gateway Technical College, Kenosha, Wisconsin, March 21-23, 2018, the year of ATEA's 90th Anniversary.

Sandra Gehlen Krebsbach, Ph.D. Executive Director

president's letter



Innovation, productivity and opportunity are why we believe in the American enterprise. Our ATEA mission is educate, train and inspire people to succeed in this enterprise. As I reflect on how far

our association has come over the years I am more encouraged than ever that this is our time. Our time to lead the nation in realizing the value of technical education. Innovations in industry like automation, lean six sigma and data analytics are converging to transform the American workplace. Just as Henry Ford pioneered the assembly line model for manufacturing it was the American Worker that made it work. Today our students are learning new knowledge and skills. Skills in sensor technology, robotics and big data form the foundation for the new industrial revolution called Smart Manufacturing. Our students like those a century ago are

the amplifier that will propel the American economy. ATEA is your partner in preparing for this New Economy. I invite you to join us at our national conference on March 21-23, 2018 at Gateway Technical College, Kenosha, WI. This professional learning opportunity is designed to demonstrate the intersection between industry and education. Interactive tours, certification training and student engagement strategies will be shared across five industry sectors. You can learn more about this exciting conference at ateaonline.org

On behalf of the ATEA board of directors thank you for your support and commitment to strengthening the American workforce.

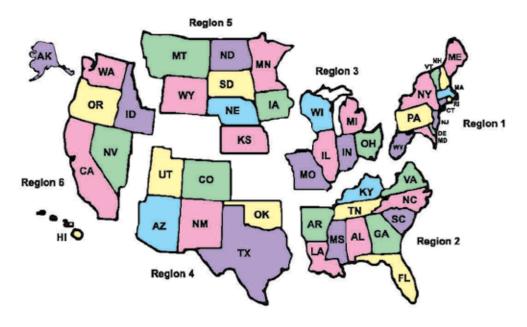
Respectfully,

Bryan

Dr. Bryan Albrecht President & CEO Gateway Technical College



ATEA regions





Dana Wolff
President of Regional Councils,
Region 5 President and
ATEA Board member.
Financial Services Instructor Southeast Tech
Sioux Falls, South Dakota
Dana.Wolff@southeasttech.edu

Overview as President of Regional Councils and ATEA Board member:

ATEA is organized into 6 Regions geographically and this year there were several regional events. Region 1, the Northeast, held a conference for the first time in over 30 years. Region 5, Great Plains and northern Midwest, held its annual conference in October and Region 3 Great Lakes Midwest and Region 6 Northwest and California, held a joint event in Reno, Nevada to tour the Tesla Gigafactory and learn about Truckee Meadows Community College's response and Reno's to the job increases. This year there were 3 regional events sponsored by 4 different regions. What an incredible year!

Next year is looking just as amazing. The national conference will be held March 21-23, 2018 in Kenosha, Wisconsin, sponsored by Gateway Technical College. Region 5 regional conference will be held October 4-5, 2018 in Kansas City, sponsored by

Kansas City Kansas Community College. This is a first for Region 5 to be in Kansas and we are looking forward to it. (see page 14)

Reasons to organize or attend a Regional Council:

Regional conferences provide high quality professional development ad leadership for technical education. Regional conferences give you the opportunity for active involvement with business and industry as well as share best practices. If you are interested in participating on a Regional Council, please contact me. We encourage active members, those who attend conferences and host conferences. Be prepared to be inspired and renewed!

ATEA Region 1 Summit on Workforce Development

October 19, 2017



Post-secondary education for technical careers represents a future we cannot ignore. We know about white and blue collar jobs, but the time is now with which we need to be most concerned about tech collar jobs and the middle skills gap. Programs that prepare students to assume roles in technical careers, coupled with area business partnerships, are paramount to student success and economic development.

Sussex County Community College had the privilege to show off our beautiful campus and county on October 19, 2017, when we hosted the ATEA Region 1 Summit. Region 1 is comprised of Connecticut, Delaware, District of Columbia, Maine, Maryland, Massachusetts, New Hampshire, New Jersey, New York, Pennsylvania, Vermont, and West Virginia.

Guests from all over the country enjoyed a day that included networking opportunities, presentations, panel discussions by incredibly well-versed experts in the areas of business partner development, workforce training assessment needs, training programs, providing skilled workers to area businesses, fulfilling current and future positions nationwide and the impact of post-secondary education for technical careers on economic development.

The Summit also included optional trips to:

Thorlabs. Headquartered in Newton, NJ, Thorlabs is an international organization that specializes in the building blocks for laser and fiber optic systems. They pride themselves on their strong commitment to building a company that achieves its competitive advantage from connection to community.

Picatinny Arsenal. The U.S. Army Picatinny Arsenal is an internationally acknowledged hub for the advancement of armament technologies, armament research, technology development and engineering innovation. The facility is located on 6,400 acres of land in Jefferson Township and Rockaway Township in Morris County, New Jersey.

Jon H. Connolly, Ph.D.

President, Sussex County Community College

President, ATEA Region 1

Summit Program

Dr. Bryan Albrecht President & CEO, Gateway Technical College

Dr. Aaron Fichtner Commissioner, New Jersey Department of Labor & Workforce Development

Jason Fruge Program Supervisor of Automotive Technology, Sussex County Community College

Dr. John Kennedy Chief Executive Officer, New Jersey Manufacturing Extension Program, Inc.

Ed Petersen STEM Program Manager & T2 Contractor, Picatinny Arsenal

Van Ton-Quinlivan Vice Chancellor, Workforce & Economic Development, California Community Colleges

Paul Watson II Dean, Academic Services & College Transitions, Pennsylvania College of Technology



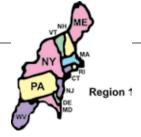
Full audio of program panel

Picatinny Arsenal Tour



ATEA Board members, Presenters and Picatinny Personnel

Keynotes Summaries



New Jersey Perspective



Aaron Fichtner, Ph.D.

Commissioner of New Jersey Workforce Development

Summary of presentation given at the ATEA Summit on Workforce

There are two challenges facing New Jersey and America:

How do we build a skilled workforce to

propel economic growth?

How do we build pathways to opportunity for all of our citizens?

New Jersey's program is "Many Paths One Future" which has the goal of moving the adult population from 50% with some postsecondary to 65% by 2025.

New Jersey has more scientist and engineers per mile, one of the highest percentage of college graduates in the country, but still has 50% of adults with no education beyond high school. The goal is to build many paths and more flexible mechanisms to attain a credential to use in the workplace and in education. There needs to be a system of stackable credentials that allows work and education movement. Citizens will go to a community college to earn credentials to get started on a career and throughout careers

8 cornerstones of New Jersey Labor and Workforce programs

- Build career awareness through career connection initiatives to advise on making decisions
- 2. Grow and expand high school and college partnerships
- 3. Create Credit baring credentials for both a job and to a degree-stackable.
- 4. Create College partnerships between 2 and 4 year colleges that move in either direction, with community colleges offering credential programs to 4 year and 4 year for transfer.
- 5. Create Equity—both geographic and ethnic for access to higher education
- 6. Get adults on campus to get a degree, credit for prior learning, employer on tuition remission
- 7. Increase work experience programs in high school and college to learn soft skills and to make better career decisions
- 8. Build partnerships between business and education to influence the curriculum as a partners not just a consumer.

West Coast Perspective



Vice Chancellor Van Ton-Quinlivan for Workforce and Digital Futures, California Community College System

A summary not a transcription

There are the same issues in California. We are called on to respond to the call to action to close the skills gap and provide for workforce development and social mobility. We have moved

on that and the Workforce Division in five years went from \$100M to \$900M in state funding.

How did they achieve this?

The system recognized that California has regional economies so they shifted "the action" or decision making from the state level to the local level. California has different industry sectors driving the regional economies but the common mantra became workforce outcomes. Different systems can talk with each other through the language of outcomes and can harmonize outcomes.

The California Community College Workforce Commission has moved from an afterthought for funding to a statewide priority by responding to requests from the Legislature. The Legislature asked them to consolidate apprenticeship programs, they did, and the Legislature added more money. The Legislature asked them to integrate adult education programs, they did and the Legislature added more money. The Workforce Division offered to regionalize the career and technical education system, they did and the Legislature added more money.

The California Legislature asked for specific metrics that would show the consolidation, integration and regionalizing so the money, metrics and data would align.

Three areas that we did it right are:

- 1. Invested in the ecosystem of in intrapreneurs who are those who solve problems within the system, on the ground, and use critical thinking skills.
- Invested in tools to produce the data, and share it—visualize it, "Freed the data"
- 3. Took advantage of California scale for innovation

With aligned money, metrics and data in five years the California Workforce Commission went from \$100M in funding, went to \$900M. Most significant finding:

Program completers 5 years out

CTE \$66,800 AA \$38,000 flat lined

Tesla's Gigafactory



Darrel Kesler, Dean of Technologies, Ivy Tech Community College, Fort Wayne, Indiana

"Wow, this is how you recruit young people into manufacturing" was my immediate reaction upon starting my tour of the gigafactory. Probably after the third time I said that out loud, not to anybody in particular, my tour guide turned to me, probably annoyed, and said "That's why we give tours to educators and students, ONLY educators and students" (and surely major investors). Understand that Tesla operates under a cloak of secrecy; yet they give tours. The gigafactory is situated in the desert outside of Reno/ Sparks, NV—not a highly populated

region of the U.S.; however, Silicone Valley needs to pay attention to what's happening in the desert and I'm not referring to the feral horses. The quote from the 1989 movie *Field of Dreams* goes "If you build it, they will come." fits. Walk into the operations room—a giant, wide-open, shared work area with four walls and rows and rows of modern desks of various heights—and you'll see employees (mostly non-Nevada native millennials) seamlessly working and obliviously of our rather large tour group. Elon Musk has created a corporate culture that fosters open collaboration with entrepreneurial and risk-tolerant mindsets.

This tour was a part of the American Technical Education [ATEA] Region 3 and 6 Conference in Reno, NV where

Jean-Philippe Laguerre of 3DS Dassault Systèmes, said "The innovation race will be won by whoever enables 'new technologies' in the product life-cycle the fastest." the following day. Elon is sprinting and we educators need to get this message to our youth and our industries. Here in Fort Wayne, IN we have an award winning Advanced Automation and Robotics Technology program (Exemplar Credit Program of the Year—National Council for Workforce Education [NCWE]) with high-tech manufacturing equipment. We are preparing future maintenance technicians to work in a *Brave New World*. A world that'll be more like the science fiction that I grew up reading rather than the one we live in today. Things that once were seemly impossible shifted to improbable and now to real.

Smart factories, like the gigafactory, embrace high-tech automation and robotics; you'll see it throughout the gigafactory. Careers in manufacturing pay well (very well), are fulfilling (a maintenance technician is a skilled problemsolver), and foster one's ability to make a positive impact on the world (socially, environmentally, etc.). Our industry needs more talent; our communities depend on this talent to survive. A tour of the gigafactory illustrates that it's not outlandish to discuss manufacturing careers as high-tech and highly desirable and such tours will recruit youth into manufacturing. Manufacturing is no longer your *Granddad's Grubby Factory* (Forbes, 2017), not even close; it's now a high-tech career.



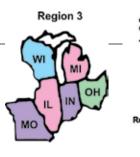
Building a Workforce for a Gigafactory



"The Transformation of Reno Nevada:

The Community College's role in the Gigafactory"

November 9-10











Chair:
Marie Price, Director of Workforce and Community
Education, Northern Idaho College, Coeur d'Alene, ID

Co Chairs:

Region 3: Sue Smith, Vice President of ATEA, Vice President of Advanced Manufacturing and Technical Sciences, Ivy Tech Community College, Indiana Truckee Meadows Community College

Region 6: Mary Kaye Bredeson, 2nd Vice President of ATEA, Executive Director of the Center of Excellence for Advanced Manufacturing and Aerospace, Everett Washington







Jim New, Vice President of Finance and Administration

Kyle Dalpe, Ph.D. Interim Dean of Technical Services

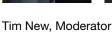
Barbara Walden, Director of Applied Industrial Technology

Panel 1









Bob Potts, Research Director for the Nevada Governor's Office of Economic Development

Frank Woodbeck - Vice Chancellor of Workforce Development, Nevada System of Higher Education

Ryan Costella - Director of Strategic Initiatives, Click Bond, Inc., and Chair of Manufacturing and Logistics Industry Sector Council for the Nevada Workforce Development Board







Ann Silver - CEO, Reno-Sparks Chamber of Commerce

Mike Kazmierski - CEO, Economic Development Authority of Western Nevada



Full audio of program panel

Panel 2

The Role of Washington State Centers of Excellence in evolving workforce needs for America's Future Factories. Emerging technologies, advancement in renewable energy, Smart Grid, cyber- security and construction of high performance buildings.

Moderator Mary Kaye Bredeson, COE for Advanced Manufacturing and Aerospace, Everett WA







Mary Kaye Bredeson, Executive Director COE

Barbara Hins-Turner, Executive Director of Center of Excellence for Clean Energy

Todd Currier, Washington State University Extension Assistant Director Washington State University Energy Program





Shana Peschek, Executive Director of the Center of Excellence for Construction, Renton WA

Jean Phillippe Laguerre, Dassault Systemes 3Ds



Full audio of program panel

The Role of Washington State Centers of Excellence in evolving workforce needs for America's Future Factories

The Future Factory - Impact on Technical Education-"... there's never been a worse time to be a worker with only 'ordinary' skills and abilities to offer, because computers, robots and other digital technologies are acquiring these skills and abilities at an extraordinary rate."

Erik Brynjolfsson and Andrew McAfee, MIT Initiative on the Digital Economy (The Second Machine Age, published in 2014).

What are Washington Centers of Excellence?

WA SBCTC selected 10 community and technical colleges to serve as Centers of Excellence. Each Center focuses on a targeted industry that drives the state's economy. A targeted industry is identified as one that is strategic to the economic growth of a region or state.

WSU Energy Program

Who we are:

- National experts on many energy technologies
- Provide energy efficiency training and technical services to government, businesses

- Staff includes energy specialists, engineers, software developers, and research librarians
- Self-supporting from grants, contracts, fee for service work and state project funds

What we do:

- Perform near to market R&D, training and knowledge transfer, technical assistance and analysis
- Also implement programs or program components for the state

The Smart Grid Evolution

- An electricity supply network that uses digital communications technology to detect and react to local changes in usage
- No Smart Grid Occupation It affects nearly every occupation in the electric utility industry
- Cyber Security Implications





Workforce Demands of Sustainable, Smart, Energy Efficient Buildings

State of the Industry Need Assessment: "99% of Current Building Engineers lack the IT skills needed to Manage Smart, Highly Efficient Buildings"

-MacDonald Miller

- · Aging workforce
- · Lack of diversity
- · Lack of systematic upskill training
- Lack of defined pathways for training
- Weak recruitment

Washington Building Engineer Consortium, WBEC

Center of Excellence convened stakeholders including employers, education and government to address the needs of the industry-

Developed a platform to address specifically the workforce needs of the industry: WBEC

WBEC Steering Committee and Members identified two priority strategies:

- ❖ Marketing and Outreach
- ❖ Defining training and education pathways

CCE was successful in receiving grant funding to support these efforts from Workforce Development Council Talent and Prosperity for all Upskill Backfill Grant

The Digital Dimension of the Fourth Industrial Revolution

A New Market Environment - The Innovation Race will be won by whoever enables "New Technologies" in the Product Lifecycle the Fastest.

Workforce of The Future-INNOVATION CAMPUS at WICHITA STATE UNIVERSITY

- Promote the startup of businesses based upon new ideas
- Support existing business growth in the region
- Grow a workforce for the future to serve both
- Transform your innovation strategy by leveraging the latest disruptive technologies and Industry Solutions
- Prototype new concepts, methods and process
- Gain access to NIAR experts and the next gen workforce





Ricardo Villalobos, Executive Director of Workforce Programs and Craig von Collenberg, Director of Apprenticeships, Southern Nevada College

Ray Koukari, Dean of Manufacturing, Engineering and Information Technology, Gateway Technical College





Jason Boatwright, Project Director, TechHire Mecha Grant, COE Adv Manufacturing and Aerospace WA

Sandra Krebsbach, ATEA Executive Director





December 6, 2017

ATEA Members,

With the excitement building to the start of a new semester of school, it was something much darker looming on the horizon that would impact colleges across South and Southeast Texas as August came to a close.

Hurricane Harvey blew into Rockport, Texas with a fury that left devastation in its wake. People in Houston and Southeast Texas, including Port Arthur, watched and prayed for those who lay in the storm's path. No one could have known that just a few days later, the storm would take aim and hit Houston and Port Arthur with a deadly torrent of flooding rain.

Houston Community College (HCC) and Lamar State College Port Arthur (LSCPA), institutions of higher education that serve the people of the southeast part of the state, would see varied degrees of damage from Harvey's flooding. What the two entities shared, however, was the immense physical, emotional and financial toll on students, faculty and staff.

As an institution, Lamar State College Port Arthur survived Harvey with a minimal amount of damage. The school was very fortunate. For our students, faculty and staff, the devastation was widespread and devastating. More than 80% of the buildings in Port Arthur had significant flood damage.

During the flood, residents from across the city were evacuated and housed temporarily in the Carl Parker Multipurpose Center on the LSCPA campus, which was set up by the City of Port Arthur as a shelter. As the waters receded in the days following the storm, the campus continued to be used as a place to live for first responders and displaced faculty and staff

During the first weeks after the storm, help came in many forms. Aside from city, state and federal first responders, the American Red Cross, FEMA, and local civic and religious groups, assistance came from many different places. Colleges as close as Texas and as far away as Missouri sent care packages to assist in Port Arthur and Southeast Texas recovery efforts.

Among the first calls received by LSCPA was the offer of help from State Fair Community College in Missouri. The college collected 22 pallets full of water, cleaning supplies, bedding, toiletries and various other sun dries. That truckload was delivered free of charge by Ditzfeld Transfer, Inc.

South Texas College delivered a trailer full of supplies. Students helped unload water and other supplies for students, faculty and staff. Dr. Ben Stafford of LSCPA accepted the donations on behalf of the college.

Other groups or individuals who contributed to the Harvey recovery effort at LSCPA included: Barnes & Noble Bookstore, Alaine LaBauve Advertising & Marketing, Subway Restaurants of Warsaw, State Fair Community College Foundation, Scholarship America National Disaster Relief Fund, Representative Dade Phelan, Senator Brandon Creighton, Representative Joe Deshotel, Hillcrest Baptist Church Women's Group, City of Jasper, Inceptia a division of NSLP, Patricia Holmes, Sempra LNG & Midstream, Port Arthur Education Foundation, National Council for Marketing & Public Relations, McGraw Hill Education, and Facility Programming & Consulting.

HCC reached out to its students, faculty and staff through disaster relief funding with donors coming from all walks of life across the Houston metroplex, neighbors helping neighbors.

Sincerely,

Betty Reynard, Ed.D.

Othy Bugnard

1500 Procter Street | P.O. Box 310 Port Arthur, Texas 77641 409-984-6100 | reynardbj@lamarpa.edu





A group from South Texas College in McAllen, Texas, delivered a trailer full of supplies to LSCPA, led by Dr. Laura Sanchez, STC's Associate Dean of Institutional Research and Effectiveness. The students helped unload water and other supplies to be used by LSCPA students, faculty and staff. Dr. Ben Stafford of LSCPA accepted the donations on behalf of the college.



(LSCPA men's basketball team helps faculty member clean out flooded home)

In the first few days after the flood, members of the student body, faculty and staff came together to help clean water-ravaged homes in preparation for the eventual rebuilding process.

Several of the hardest-hit members of the faculty and staff have taken up residence at Seahawk Landing, giving them the opportunity to live in a safe place while going to work and having repairs done to their homes.

"We are a close-knit community at LSCPA and so it was important that those who were devastated by this storm know that we are here for them," said Dr. Betty Reynard, president of LSCPA. "No one should feel alone in going through an experience like this."



(Faculty and staff come together to help a member of the faculty clean out his flooded home)



Among the first calls received by LSCPA was the offer of help from State Fair Community College in Missouri. The college, assisted by the students of Smith-Cotton High School, collected 22 pallets full of water, cleaning supplies, bedding, toiletries and various other sundries. That truckload was delivered free of charge thanks to Ron Ditzfeld of Ditzfeld Transfer, Inc.

"We understand the challenges community college students face in pursuing their education and offer encouragement to persist in the face of this disaster," said Dr. Joanna Anderson, president of SFCC. "I am so appreciative of our employees and students, Smith-Cotton High School Student Council and JROTC, and all those who helped fill the truck and support the relief effort. We send our hopes and prayers for your recovery along with the items so generously donated."

A short time after the delivery of the truck full of supplies, the college sent an additional bit of support in the form of Subway gift cards to be distributed to the hardest-hit students, faculty and staff. That donation was made by Eddie DeJaynes of Warsaw, Missouri.



Gerry Dickert, Public Information Coordinator for Lamar State College Port Arthur (pictured far right) wades through his neighborhood along with his family as they seek shelter from Hurricane Harvey's flooding. Dickert's home is located less than five minutes from the campus of LSCPA.

Message from Bryan Albrecht at the conference opening session.



Congratulations Region 5 Leadership Team! You set the gold standard for ATEA regional events. Your program, business partners, tours, awards and professional networking opportunities are remarkable. It is a privilege and honor for me to represent you through ATEA at national convening like this. I am often asked why I support ATEA. This morning I would like to share

three reasons why I am an ATEA member and ask that you consider reflecting why you are a member and what we can each do to engage others in our imports cause. The first reason is because I like being around people that share my passion and value for career and technical education. Members of ATEA have a similar DNA we understand what technical education is and the difference it makes in the lives of our students. Second is because like you I recognize the important role our profession makes in providing the opportunity to earn a good job and support their families for our students. We are all hear because we know that our work improves lives and strengthens the communities we serve.

And last we must never forget what made America great. The hard working men and women that built and are still building our economies. The worlds economy is driven by technically skilled workers and that has been our countries advantage for centuries and is our calling to maintain.

By being here this week you are a part of a larger effort to amplify the voice of ATEA. I will share your story of this event in my travels throughout the country and collectively we will celebrate the dignity of technical education.

Bryan

Dr. Bryan Albrecht President & CEO Gateway Technical College

Welcome, ATEA Region V Conference Attendees!



Peggy D. Kennedy, Ed.D. President

Minnesota State Community and Technical College

Welcome to Minnesota State Community and Technical College! With our four campuses in Detroit Lakes, Fergus Falls, Moorhead and Wadena, we are pleased to be hosting the American Technical Education Association

conference on our Moorhead campus this year.

M State is recognized in this region for its excellence in technical education and quality workforce development programs – values it shares with ATEA.

During this conference, I hope you have time to meet our experienced and dedicated faculty and staff, as well as representatives of the outstanding businesses and industries

that support M State and its mission. Throughthem, you will get a better idea of what we off er to our students and the regional workforce with our flexible and innovative programs and services.

We also hope to learn and grow as a college through participation in this conference, as technical education is critical to our students, our workforce and the economic development of our communities.

Best wishes for a successful conference!



2017 ATEA Region 5 Conference Industry Partner Business Award



Name of Business: Bobcat Company

Years as an Industry Partner supporting the program/college: 15

Annual Donation (monetary & Tools/Equipment value): Bobcat has donated roughly 350,000.00 dollars in equipment, tools, parts and supplies over the past 15 years.

Scholarships: Over the past several years Bobcat has provided three 1,000.00 dollar scholarships for students enrolled in STEM programs. Bobcat has also signed a long term commitment to continue the scholarship program and provide an additional 2,000.00 per year for classroom technology. The total commitment is 50,000.00 dollars over the next 10 years.

Sponsorships: Bobcat Companies does not provide sponsorships but it's supporting dealer network does.

Training: Several years ago Bobcat moved its affiliate training site from NDSCS to M State and we became one of eight such sites in the United States. Bobcat also provides training for M State instructors on a yearly basis with all other Bobcat affiliate trainers nationwide.

Advisory Committee Member – Contributions: Bobcat has two people who serve on the Diesel Advisory Committee one of which is a graduate of the Diesel program.

Business Award - In 150 words or less explain why you feel this industry partner deserves this award:

I can think of no other company that is more deserving of this award than Bobcat!!! They have supported the Diesel program and M State through equipment donations, parts, supplies and money. As a college M State facilities uses a donated A220 skid loader to sweep the parking lots and walkways of snow and dirt. They provide an endless supply of engines and equipment to be used by the Diesel Department to train students with. Bobcat also showcases our facility by conducting classes for technicians who work in Minnesota and the Dakota's. The most impressive thing I can say about Bobcat is that they provided support when our program was at its lowest point, that is not always easy to do.

TOURS

Green Plains
Proof Artisan Distillers
Kern Laser Systems
CNH Industrial
John Deere Electronic Solutions
Microsoft Fargo
Swanson Health Products
Bergen's Greenhouses
Richwood Winery
Prairie Brothers Brewing Company



CONFERENCE CO-CHAIR

Jim Bainer, Diesel



MOTIVATIONAL SPEAKER, KEYNOTE Mark Lindquist



2017

What is the American Technical Education Association?

ATEA is an autonomous, non-affiliated international association devoted solely to the purposes of postsecondary technical education. It is an organization dedicated to excellence in the quality of postsecondary technical education with emphasis on professional development. ATEA is a driving force behind workforce development.

ATEA was founded in Delmar, New York in 1928 and incorporated as a non-profit professional education association in 1960. In 1973 the national headquarters moved from New York to Wahpeton, North Dakota to the campus of North Dakota State College of Science. In 2012 the national office moved to Dunwoody College of Technology, a private non-profit technical college founded in 1914 in Minneapolis.

American Technical Education Assn.

Dr. Sandra Krebsbach Executive Director, ATEA

skrebsbach@dunwoody.edu | 612.381.3315 818 Dunwoody Blvd Minneapolis, MN 55304

www.ateaonline.org

Members:

- Teach, serve or administer technical education at the postsecondary level.
- Hire technically prepared employees
- Support or provide technical education pathways: secondary to postsecondary or postsecondary to university levels.

Mission:

The American Technical Education Association (ATEA) is a leading association for the postsecondary technical educator with emphasis on professional development for postsecondary technical educators. The organization is dedicated to excellence in quality of postsecondary technical education by focusing on practical teaching ideas and best practices. ATEA recognizes outstanding performance and leadership and provides a network for career connectivity.

Goals:

- Promote high quality technical education.
- Advocate the value of technical education to society.
- Disseminate information regarding current issues, trends and exemplary practices in technical education.
- Partner with educational institutions, business, industry, labor and government to enhance workforce development strategies.

Top Ten Reasons to Join ATEA:

- 10. Workforce Development
- 9. Voice for technical and applied education
- 8. Share best practice
- 7. Active involvement with business and industry
- 6. Opportunity to respond to national media requests
- 5. Subscription to the ATEA Journal
- 4. Regional and national conferences
- 3. Awards for outstanding performance and leadership
- 2. Professional growth and development
- 1. Networking with technical education professionals

Annual Membership Rates:

Individual Members	\$75
Individual Retired Members	\$30
Individual Student Members	\$15
Individual Life Membership	\$600
Institutional Members (3 members)	\$500
Institutional Sustaining (10members)	\$1000
System Membership (up to 100)	\$5000
Corporate/Business Members	\$500 and \$1000

To join online or print a membership form, please visit: www.ateaonline.org/Membership





Dr. Bryan Albrecht, President ATEA, President Gateway Technical College Kenosha/Racine Wisconsin

You are invited to "Skills Gap Solutions--Partnerships that Work" the 55th ATEA national conference on technical education March 21-23. I serve as co-chair with Dr. Bob Meyers, Chancellor of University of Wisconsin-Stout. The conference is hosted by my college, Gateway Technical College, Racine/Kenosha, Wisconsin.

The program draws on Gateway's strengths of connecting with business, industry and the community and our focus on skills training and certificates. The conference format includes 5 workshops with certification that are also tied to the industry tours. ATEA conferences are all inclusive, tours, food, workshops and trade show. The ATEA national conference also includes national awards for outstanding technical student, teacher, program and business.

Here is the ATEA National Conference Agenda. Schedule of ATEA 55th National Conference--2018 hosted by Gateway Technical College, Racine Kenosha Wisconsin. The University of Wisconsin-Stout will have graduate credit available for the conference participants.

Registration page: ATEA National conference 2018 "Skills Gap Solutions--Partnerships that Work" complete package

The conference hotel is the Double Tree just off of Interstate 94 in Pleasant Prairie, Wisconsin--easy access from either O'Hare, Chicago or Mitchell, Milwaukee airports. It is about one hour from Chicago and less than that from Milwaukee.

I encourage you to experience first-hand-- Gateway Technical College. We connect with over 300 businesses and industries and soon will be training for Foxconn's 13,000 jobs in southeastern Wisconsin.

Enjoy Wisconsin hospitality--connecting and building relationships is both a hallmark of Wisconsin and of ATEA conferences.











Presenters

- 1. Dr. Meyers, Co-Chair, Chancellor of University of Wisconsin-Stout
- 2. Opening Dinner speaker, Honorable Rebecca Kleefisch, Lt. Governor, Wisconsin
- 3. Opening Dinner speaker, Dr. Myrna Foy, President of Wisconsin Technical College System
- 4. Friday Keynote Dr. Daniel Phelan, President Jackson Community College, Michigan. Past President Association of America Community Colleges and author of "Unrelenting Change, Innovation and Risk: Forging the Next Generation of Community Colleges"
- 5. Nick Pinchuk Chairman and CEO of Snap-on Corporation

The 2018 Gateway Technical College ATEA National Conference Committee

Invites you to Kenosha and Racine Wisconsin March 21-23

They have a packed conference for you with keynotes, industry tours, 5 specially designed lab experiences combining their expertise with national experts in ATEA--with certification options and for the conference graduate credit option through the University of Wisconsin-Stout

Keynote and reception hosted by: Nick Pinchuk, CEO of Snap-On Tools all with Wisconsin hospitality!







Committee members back row L-R: Mike O'Donnell- Dean, Allied Health & Veterinary Sciences; Larry Hobbs- Divisional Chair, Automotive Diesel Technology, Horticulture & HVAC/R Facilities Maintenance Instructor; Dr. Matt Janisin - Vice President of Business and Workforce Solution; Dr. Bryan Albrecht -Gateway President & Chief Executive Officer / ATEA President; Eric Doherty - Director, IT User Experience; Scot Eisenhauer - Director, Law Enforcement Training; Ray Koukari - Dean, Racine Campus Affairs, Business & Information Technology

Front Row L-R: Mary Harpe - Assistant to President; Stephanie Sklba - Vice President, Community & Government Relations; Marv Campbell - Technology Support Coordinator; Jayne Herring - Director, Marketing & Communications; Kelly Bartlett - Assistant to President

Small individual photos to the right top to bottom: Gregory Herker, Manager Fab Lab; Dr. Sylvia Tiali, UW- Stout; Pat Hoppe, Electrical Technology Instructor





Chair: Dr. Bryan Albrecht, President, Gateway Technical College Honorary Co-Chair: Dr. Bob Meyer, Chancellor, University of Wisconsin-Stout.





AMERICAN TECHNICAL EDUCATION ASSOCIATION

NATIONAL CONFERENCE

March 21-23, 2018

at Gateway Technical College



See www.ateaonline.org for more information

Welcome

Colleagues,

America is in a crisis and we need your help in securing our economic future. To address this important issue, the American Technical Education Association has dedicated its National Conference to addressing "Skills Gap Solutions-Partnerships that Work."

The 55th ATEA National Conference on Technical Education will be held at Gateway Technical College in Wisconsin March 21-23, 2018. As Co-chairs, Dr. Bob Meyers, Chancellor of University of Wisconsin-Stout and I invite you to attend this important event.

The program draws on Gateway's strengths of connections with business and industry and exemplifies the Industry Certification pathway for students. The conference format includes 5 workshop pathways that align with industry tours of some of our regionally located global education partners.

ATEA conferences are all inclusive, tours, food, workshops and trade show. The ATEA National Conference also includes awards for outstanding technical education student, teacher, program, and business partner. The University of Wisconsin-Stout offers graduate credit for the conference participants. I welcome you to experience firsthand our Wisconsin hospitality and to strengthen your professional network through ATEA.

Respectfully,

Bryan Albrecht Ed.D. Bob Meyer, Ph.D.



Bryan Albrecht President & CEO Gateway Technical College



Bob Meyer Chancellor UW Stout



The American Technical Education Association will celebrate its 90th year of its founding at the 2018 National conference hosted by Gateway Technical College in Kenosha and Racine Wisconsin. There is no better place than this college that has been true to the technical education mission and has moved through its years connecting and innovating to produce outstanding graduates and foster southeastern Wisconsin business. That Foxconn is coming to their region is a tribute to their part in economic development.

You are invited to this dynamic institution to experience one of five workshop labs with certificate options for you to earn and to model in your own work. The conference will model and focus on pathways from k-12 to university programs at the ATEA conference traditional Thursday panel that gets at the "heart" of the conference. Wisconsin elected and system leadership will be there to greet you and for the ATEA national awards presentations. There are the ATEA industry tours that connect to the workshops.

We are grateful for the generous sponsorships, especially from Snap on Incorporated with a reception at their corporate innovation center and a keynote by Chairman and CEO Nick Pinchuk on the "Dignity of Technical Education." Author and college leader, Dr. Dan Phelan will close the conference with a keynote based on his book on "Relentless Change." Which is exactly what ATEA members have experienced, lead and fostered for the past 90 years.

Thank you to the talented and dedicated Gateway Technical College national conference committee who know how to team, step in when needed and scrum as any good Rugby team does—running down the field together.

See you there,

Sandra Gehlen Krebsbach, Ph.D. Executive Director



Sandra Gehlen Krebsbach Executive Director of the American Technical Education Association

Featured Speaker



Nicholas Pinchuk Chairman and CEO, Snap-on Incorporated

Nick Pinchuk is chairman and chief executive officer of Snap-on Incorporated, and serves on its board of directors.

Before Snap-on, Mr. Pinchuk was president, global refrigeration operations, a multi-billion dollar business unit of Carrier Corporation, a subsidiary of United Technologies Corporation. Before joining United Technologies, he was with the Ford Motor Company, where he held various financial and engineering positions. He also served in Vietnam as an officer in the United States Army.

Mr. Pinchuk received an M.B.A. from Harvard, and master and bachelor of science degrees in engineering from Rensselaer Polytechnic Institute. He currently serves on the board of directors for the National Association of Manufacturers; on the Board of Trustees of the Manufacturer's Alliance for Productivity and Innovation; as well as other boards.

Mr. Pinchuk is an outspoken leader on workforce development and technical education and careers, receiving national recognition from numerous national organizations for his active role in promoting the dignity of work.



Agenda at a Glance

Wednesday March 21, 2017

9:00 am - 11:00 am ATEA Board Meeting (DoubleTree - Southport Conference Room)

11:30 am - 1:00 pm Luncheon & Trade Show

(DoubleTree - Prairie Ballroom & Lakeview Room)

• Opening Welcome: Bryan Albrecht, ATEA President

• Sponsors Welcome: Paul Perkins, Amatrol and Leo Reddy, MSSC

1:00 pm - 1:15 pm Busing to Industry Pathway Tour (Depart from DoubleTree)

Sponsored by the Manufacturing Skill Standards Council (MSSC)

1:15 pm - 3:45 pm Industry Pathway Tours (See detailed descriptions on page 7)

4:00 pm - 5:00 pm Technical Education Alumni Reception

(DoubleTree Hotel)

Trade Show Open (*Prairie Ballroom & Lakeview Room*) Sponsored by: University of Wisconsin – Stout and Gateway Technical College

5:00 pm - 7:00 pm ATEA Awards Dinner (DoubleTree – Prairie Ballroom)

• Sponsor's Welcome: Roger Tadajewski, NC3 Executive Director

• Emcee: Bob Meyer, Chancellor UW-Stout

Wisconsin Welcome Dr. Morna Foy, WTCS President

Guest Speaker Wisconsin Lt. Governor Rebecca Kleefisch

ATEA Awards Presentations Dr. Bryan Albrecht, ATEA President

Student, Teacher, and Program of the Year awards.

Silver Star award for Business of the Year.

Thursday March 22

7:00 am - 8:00 am ATEA Breakfast (DoubleTree – Prairie Ballroom)

Sponsor's Welcome: Al Bunshaft, Senior Vice President,

Dassault Systèmes' Americas Corporation

Vendor Exhibits Open (Prairie Ballroom & Lakeview Room)





8:00 am - 9:00 am

Opening Plenary Session (DoubleTree – Prairie Ballroom)

Panel on Pathways & Partnerships – Moderator: Jaime Spaciel

- Dr. Beth Ormseth, Principal LakeView Technology Academy
- Clark Coco, Dean Washburn Tech, KS
- Dr. Bob Meyer, Chancellor UW-Stout, WI
- Al Bunshaft, Senior Vice President,
 Dassault Systèmes' Americas Corporation

9:00 am - 10:00 am

Buses depart from DoubleTree Hotel to Pathway Sessions located at Gateway Technical College Campuses & Advanced Technology Centers.

Sponsored by: Manufacturing Skill Standards Council (MSSC)

10:00 am - 4:00 pm

Professional Development Pathways

(See detailed descriptions on page 8)

 Transportation Pathway – Horizon Center for Transportation Technology. Participants will tour and participate in hands-on industry certification training in partnership with Snap-on, Starrett, and FCA.

Sponsored by: Wisconsin Technical Education Association

- Advanced Manufacturing Pathway SC Johnson iMET
 Center. Participants will tour and participate in hands-on industry certification training in Dremel 3D, Skills Boss, NIDA CerTec, and Industry 4.0. Sponsored by: LAB Midwest, LLC
- Health & Protective Services Pathway Kenosha Campus Locations.
 Participants will tour and participate in human patient simulation (HPS), and nursing, surgical technology, dental, and law enforcement/personal safety curriculum.
 Sponsored by: Healiacs
- Sustainable Energy Systems Pathway Kenosha Campus locations Participants will explore energy systems including wind, solar, and geoexchange technology systems employed at Gateway and participate in hands-on industry certification training in building automation and gas meter technology. Sponsored by: Trane
- Information Technology Pathway IT Center of Excellence-Racine Campus. Participants will tour the Gateway's IT Center of Excellence and participate in hands-on certification training in the areas of cyber security, networking, and telecom installation systems.

Sponsored by: National Coalition of Advanced Technology Centers

Boxed Lunch provided during all Pathway Sessions



Agenda at a Glance

4:00 pm Busing from Pathway locations to Snap-on, Incorporated,

2801 - 80th Street, Kenosha

4:30 pm - 6:30 pm ATEA Reception at Snap-on Innovation Center & Museum

Keynote Presentation: "The Dignity of Technical Education", Nick Pinchuk, Chairman and CEO, Snap-on, Incorporated.

Sponsored by: Snap-on.

6:30 pm Busing to DoubleTree Hotel / Hampton Inn / Candlewood Suites

Dinner on your own

Friday March 23

8:00 am - 8:45 am ATEA Regional Meetings (DoubleTree Hotel)

• Region 1 & 2 Des Plaines Boardroom

Region 3 & 4 Lakeview Room

• Region 5 & 6 Southport Room

9:00 am - 10:15 am Closing Brunch DoubleTree Hotel (Prairie Ballroom)

Emcee: Sue Smith, ATEA Vice President

National Apprenticeship Opportunities: Jennifer Worth, Senior Vice President, Workforce & Economic Development, American Association

of Community Colleges (AACC)

Keynote Presentation: Unrelenting Change, Innovation, and Risk author:

Daniel J. Phelan, President-Jackson College, Michigan. Sponsored by:

Wisconsin Technical College System

10:15 am - 11:00 am ATEA Annual Meeting DoubleTree (Redwood Ballroom)



Wednesday Afternoon March 21

Industry Pathways Tours

Transportation: Modine Manufacturing Company

Modine Manufacturing is a global leader in heat transfer and thermal management. Gateway hosts Modine University for technical product training.





Advanced Manufacturing: Niagara Bottling

Niagara Bottling is a family owned company with a tradition of quality, integrity and great customer service. Niagara's strategic advantage is high speed bottling technology.

Health/Safety: Froedtert South

Froedtert South is a general medical and surgical health care provider and a key partner with Gateway in training in the healthcare community. Demonstration of the The da Vinci ® Surgical System for minimally invasive surgery





Sustainable Energy: SC Johnson, A Family Company

SC Johnson is a fifth generation family- owned consumer products company. SCJ is a global leader sustainable practices and a strategic partner with Gateway in community development

Information Technology: OFFSITE Data Center

OFFSITE Data Center leverages Tier III, SOC 2 Type II Data secure technology systems. With 24/7 operational efficiency and high capacity infrastructure OFFSITE is a leader in data management.





Thursday March 22

10:00 am to 4:00 pm

Pathways Workshop Descriptions

1 Undergraduate OR 1 Graduate Credit Available through University of Wisconsin-Stout Contact: Sylvia Tiala at tialas@uwstout.edu

Transportation Pathway – Horizon Center for Transportation Technology

This facility demonstrates how public-private partnerships transform education to better serve students and the local community. The session includes handson activity in a number of certification areas presented by a national team of instructors, as well as insights to what future technology will bring to the transportation industry from Gateway's global industry partners. Participants will gain certification in the areas of Starrett Precision Measurement, Snap-on torque. digital multimeter, battery starting and charging, or Shopkey service information. These certification pathways will also count toward your NATEF required 20 hours of annual update training.

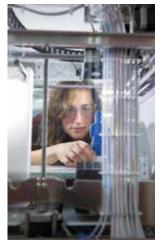
Sponsored by: Wisconsin Technical Education Association



Advanced Manufacturing Pathway – SC Johnson iMET Center

Participants will tour and participate in hands-on industry certification training in Dremel 3D, Skills Boss, NIDA CerTec, and Industry 4.0. Gateway's FabLab is a member in the United States Fab Lab Network. In this session, the participants will learn how to set up and print a 3D model. Basic concepts for new users

of 3D printers will also be covered, along with an overview of the different types of 3D printing, and an overview of the available certifications.



Industry 4.0: Participants will learn about Industry 4.0 and how to prepare their students for this next evolution in factory automation through hands-on experiences utilizing FESTO Automation systems, industrial networking and Rockwell Programmable Logic Controllers.

National Certifications: Participants will learn about the national certifications in electronics offered through CertTec and Snap-On. Participants will experience the Snap-On Electrical Safety training and have an opportunity to earn the Snap-On certification. In addition, each participant will be able to experience a portion of an actual hands-on CertTec exam to better understand the validity and usefulness of the certification.





Health & Protective Services Pathway – Kenosha Campus Locations

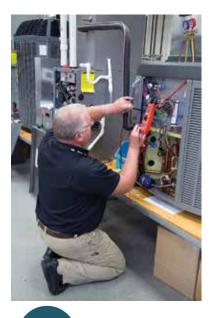
Participants will tour and participate in hands-on activities. For the health career portion, participants will become involved in human patient simulation (HPS), nursing, surgical technology, and dental careers. In the area of Protective Services, participants will visit The Kenall Protective Services Training Center. Participants will be involved in each of the following training areas:

- Kenall Firearms Range
- defense and arrest matt room
- · Milo video interactive use of force
- crime scene investigation
- personal protection seminar

Sponsored by: Healics







Sustainable Energy Systems Pathway – Kenosha Campus

Participants will explore energy systems including wind, solar, and geoexchange technology systems employed at Gateway and participate in hands-on industry certification training in building automation and gas meter technology.

Track 1: Certification in Building Performance Instruments Digital Manometers. This hands-on session will focus on the use of digital instruments to set up and maintain high-efficiency heating and cooling equipment in proper operation parameters. Learn how gas flow measurement, temperature rise and static pressure affect heating system operation and energy use.

Track 2: Introduction to Sustainable Energy Systems Sessions will include a tour of Gateway's Center for Sustainable Living, Energy Systems employed at Gateway and descriptions of best practices in wind, solar and geoexchange technologies.

Sponsored by: Trane



Information Technology Pathway – IT Center of Excellence-Racine Campus

Participants will tour Gateway's IT Center of Excellence and participate in hands-on certification training in the areas of cyber security, networking, and telecom installation systems.

HTML5 Certification Track: These classes prepare you to take the HTML5 Microsoft Certification Exam. Classes will cover HTML5 client application development skills that will run on today's touch-enabled devices. Attendees reinforce core HTML5 client application development skills that will run on today's touch-enabled devices (PCs, tablets, and phones). Participants will learn to:

- manage the application life cycle
- build the user interface (UI) by using HTML5
- format the user interface by using Cascading Style Sheets (CSS)
- code by using JavaScript

Industrial Internet of Things Track: This track shares examples of how to utilize the Internet to connect devices to each other using the internet. How does Industry 4.0 or GEN 3.0 fit into this area? What impact does cloud computing have on IIOT? Will AI (Artificial Intelligence) play a role in IIOT or is it already? This could be software, buildings, actuators, sensors, lights, embedded technologies, and so much more.

- Industrial Internet of Things (Industry 4.0)
- Cloud Computing
- Al (Artificial Intelligence)
- The next big thing in IT?

Sponsored by: Gateway Technical College





Lodging

Room Block under American Technical Education Association (ATEA)

Reservation Deadline: 02/18/2018

Below you will find the link to the DoubleTree website.
The group code is ANC. On booking page, click on "Add special rate codes", add "ANC" in group code box and it will take you to your booking page.

DoubleTree by Hilton

11800 – 108th Street Pleasant Prairie, WI 53158 (262) 857-3377 Rate: \$134 per night (ANC) King & Queen Double

http://doubletree3.hilton.com/en/hotels/wisconsin/doubletree-byhilton-pleasant-prairie-kenosha-MKEPKDT/index.html

(Click here)

Please copy and paste the entire URL below into your browser to access the exclusive rates available for this group:

Hampton Inn

7300 - 125th Avenue Kenosha, WI 53142 (262) 358-9800 Rate: \$119 per night King & Queen Double

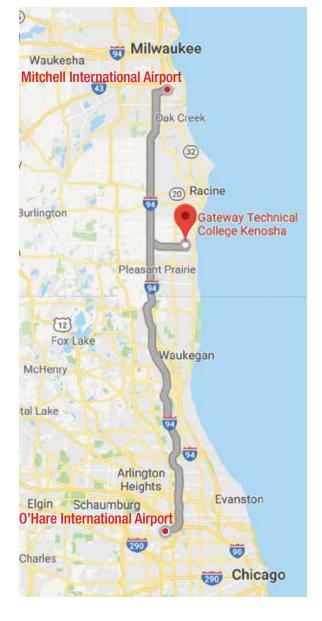
http://group.hamptoninn.com/ATEA (Click here)

Candlewood Suites

10200 – 74th Street Kenosha, WI 53142 (262) 842-5000 Rate: \$99 per night King & Queen Double

https://www.candlewoodsuites.com/redirect?path=asearch&brandCode=CW &localeCode=en®ionCode=1&hotelCode=enwcw&checkInDate=21&checkIn MonthYear=022018&checkOutDate=22&checkOutMonthYear=022018&rateCode=6CBARC& PMID=99801505&GPC=ATE&viewfullsite=true

(Click here)











Event Sponsors

























Identifying the strengths and barriers of student success: Perceptions of Technical College Students.

by: Sarah Nadel, M.A., Jennifer Ann Morrow, Ph.D., Gary Skolitis, Ed.D., Brittany Daulton, Ph.D.

Introduction

Educational research is conducted to understand and better identify ways to continue to increase student success. However, student success for technical college students has yet to be widely researched (Hirschy, Bremer, & Castellano, 2011). There is a critical need to identify different attributes that contribute to the success of this specific population (Hirschy et al., 2011). This study sought to identify how instructors, administration, academic programs, and students' needs can help or hinder technical college student success. For this study, student success is defined as a student's persistence to degree completion.

The purpose of the current study was to ascertain technical college students' perceptions of success and barriers to success by identifying their needs as students, the barriers to completion they may have encountered, and technical college students' perceptions of their program based on instructor, administration, and program behavior.

There are four main research questions:

- 1) What are student perceptions of their technical college and instructors/administration within their institution?
- 2) What student needs are/are not being met within their program?
- 3) What are student perceptions of their technical program?
- 4) What are the potential barriers students face in regards to completing their technical college program?

Literature Review

Technical colleges have become increasingly more prevalent in our society, specifically over the last several years (Clotfelter, Ladd, Muschkin, & Vigdor, 2013; Snyder & Dillow, 2012). While career and technical institutions have been enrolling students since the early 1900s, their curricula have continued to evolve, the number of students they serve has increased, and as such, there is a growing need for an increased focus on student retention and academic success (D'Amico, Morgan, & Robertson, 2011; Hutto, 2015). These institutions offer their students access to a variety of technical programs (e.g. automotive technology, cosmetology, dental assisting), hands-on job experiences, career related internships, and the ability to earn a certificate or degree within one to two years (Hirschy, et al., 2011; Iannarelli, 2014). However, little research has focused on student success and barriers to success within a technical college, causing difficulty in

identifying what hinders and what enhances student success within this specific population of students (Schmid & Abell, 2003). As these institutions continue to increase the numbers of students they serve, they confront various institutional challenges including how to most effectively support and increase student success (Mitchell, 2014; Schmid & Abell, 2003)

Research indicates that students enrolled in technical colleges are generally viewed as being similar, if not identical, to those who attend community colleges (Laanan, Compton, & Friedel, 2006; Xu & Jaggars, 2013). However, researchers have identified that technical college students differ in various characteristics from those within two-year community colleges. For example, technical college students are more likely to have earned a GED instead of a traditional high school diploma, enrolled in vocational programs in high school, and be identified as independent students (Hirschy et al., 2011). As such, it cannot be assumed that these two different student populations have the same conditions for success or that their barriers of success are identical; they should be understood and examined as two separate entities.

The current study's research questions and views were based on research conducted by Murphy, Gaughan, Hume, and Moore (2010). Murphy et al. (2010) identified that student success stems from other factors such as the "counterproductive attitudes of educators" and issues within the institution (p. 72). Clotfelter et al. (2013) identified that there is also an absence of data to measure student success for this specific population. Thus, the current study seeks to further add to the current literature regarding the factors of technical college student success.

Method

An exploratory sequential mixed-methods design was utilized in the current study (Creswell, Fetters, & Ivankova, 2004). Accordingly, this study employed a sequential design of focus groups followed by a web-based survey, with both assessing, student needs, barriers, and perceptions of their program in regards to student success.

Focus Group Participants and Procedure

Two separate focus groups consisting of 15 total participants were conducted with currently enrolled technical college students at a Southeastern technical college. Participants were recruited through email by institutional administrators to participate in one of two 60-minute recorded focus groups. More specifically, stratified random sampling was utilized as the population was divided by program and instructors chose a student from their program

at random to participate in the focus group sessions (Levy & Lemeshow, 2011). Institutional Review Board (IRB) approval was obtained and informed consent was secured prior to participation. During the focus group session, participants discussed their perceptions of their institution, the program in which they are enrolled, specific needs they have inside and outside the classroom that were/were not being met, and perceived barriers to their success. The recorded data was then transcribed and coded using a cyclical, iterative analysis strategy (Saldaña, 2009). Following Strauss and Corbin's (1990) grounded theory approach, various codes and themes emerged and were used to support development of a needs assessment survey. The resultant anonymous online survey was used to assess students' perceptions of their technical college, student needs, and barriers that have hindered them as a technical college student.

Survey Participants and Procedure

Survey participants included 179 randomly selected, currently enrolled students at a Southeastern technical college. Of the 179 participants, 55.8% (n=100) were male, 29.1% (n=52) were female, and 15.1% (n=27) did not respond to this question. The majority of participants were White (54%) and between 18-25 years of age (40%). In terms of enrollment status, 85.5% (n=153) were full-time students, 63.1% (n=113) of participants stated that their highest level of education was a high school diploma with only 8.3% (n=15) indicating they went on to receive an Associates, Bachelors, Masters, or Doctoral degree. Lastly, participants were represented from each of the twenty academic programs offered.

Results

Focus Group Findings

The focus group data were transcribed and coded in a cyclical fashion to identify each code and theme captured within the group interviews (Saldaña, 2009). The overall student focus group findings indicated that faculty were very knowledgeable; some have favorite students; they don't always adhere to policies and procedures; and instructors are generally courteous to students. Additionally, student focus group findings indicated that the administration needed to provide students with more information regarding program policies and requirements, as well as be more helpful and courteous to students. Lastly, students felt that some programs lack all of the equipment needed for their discipline, however, focus group participants indicated that the institution did prepare students for job attainment upon degree completion. Participant comments from the focus groups included statements such as, "My instructors have a vast amount of knowledge towards the field they are trained in," "They [instructors] believe in me that I am going to go far in life whenever I go into my career field," and "They [administration] have a good knowledge of the curriculum that they are offering at this school." These statements supported the development of the needs assessment survey

regarding instructors, faculty, and each program offered within the institution.

Needs Assessment Survey

Within the survey, various quantitative questions were used to assess student perceptions of their instructors, administration, and program in regard to supporting student success. Each quantitative question was measured on a 5-point Likert scale ranging from strongly disagree to strongly agree. Higher numbers reported on the Likert scale indicated higher levels of agreement. Table 1 represents a more detailed description of each question and the percentage of students that somewhat agreed to strongly agreed with each item regarding perceptions of their instructor. Overall, students reported high levels of instructor support in regard to their success as students.

Table 1.Evaluation Ouestions of Instructors

My Instructor(s)	Total % Somewhat Agree - Strongly Agree
Gives me the knowledge I need to succeed in my field.	86.1%
Answers any questions I have regarding class material.	85.0%
Promotes a healthy classroom environment.	83.8%
Is always willing to help me when I have questions.	83.2%
Cares about my success as a student.	82.7%
Is approachable if I have concerns or questions.	81.4%
Pushes me to work harder within my program.	79.8%
Makes me feel like my success is a priority to them.	75.7%
Encourages students to move at their own pace.	72.4%
Is understanding if I am not able to attend class.	61.0%
Is understanding if I am late for class.	57.3%
Is too lenient in regards to turning in classroom assignments.	27.9%

Subsequently, students were asked open-ended questions on the survey regarding the strengths, weaknesses, suggestions for improvement of their instructors, administration, and programs; barriers of program completion due to instructors, administration, and program; and lastly, suggestions/ information on how their instructors, administration, and program could better promote student success. Teaching skills, knowledge, experience, care for students and instructor motivation were characteristics that were not only identified as strengths for student success, but in some aspects they were found to be an instructor weakness and a student barrier of program completion. Participants identified several things that instructors could improve to reduce their barriers to success: enhancing their teaching skills, providing individual help, enhancing students' understanding, being more lenient with the grading scale, and providing additional job information.

Students also responded to the assessment regarding administration and their program's ability to increase their success level within their education. Similar to the assessment of their instructors, they had high levels of agreement regarding different aspects of administration and their program in how they helped students succeed. However, two specific areas regarding how administration takes the time to get to know students and how academic counselors ensure students stay on track to graduate had agreement levels below 50%. Responses were examined regarding participants' level

of agreement focusing on administration behaviors that help them succeed within their program (see Table 2).

Table 2.
Assessment of Administration

Statements Regarding Administration	% Somewhat Agree/Strongly Agree
At orientation, the administration explained what is expected of me as a student.	85.5%
Whenever I go to the main office for help, I feel welcome.	72.7%
Whenever I go to the main office for help, my questions are answered accurately.	70.6%
I always feel welcome whenever I have questions for any member within the administration team.	68.7%
The Financial Aid office has given me a clear understanding of what I need to do to receive financial aid.	68.3%
The Financial Aid office seems willing to help me with any questions I have regarding my financial aid.	67.9%
I understand how my financial aid is awarded.	66.7%
The administration has been supportive of my overall success as a student.	64.2%
The Financial Aid office has been very helpful to me.	63.6%
I understand how my financial aid award is disbursed.	60.6%
I feel comfortable asking my academic counselor for help if I need it.	55.2%
My academic counselors have given me a clear understanding of what I should expect in my program.	53.9%
Several people within the administration have taken time to get to know me.	47.3%
My academic counselor makes sure I stay on track with my program.	46.7%

In analyzing the codes based on the open-ended feedback in the survey, students identified that "Assistance" was one of the highest rated strengths of administration; however, it was one of the highest rated weaknesses as well. Students suggested that "No Changes" and "Supporting Students" were the two highest rated codes in which administration could improve. In regards to barrier of completion, "No barriers" and "Communication" were the most frequent codes identified. Lastly, the most frequent student suggestion was that "No Changes" were needed by administration; however, "Communication" was the second highest rated code.

Looking at responses about students' programs, 53.7% surmised that their program was fundamental in helping them succeed and only 1.7% said it was not. It was found that 29.4% responded that their program didn't create any barriers of success. It was suggested by 17.4% of respondents that the "Course Content" be changed to improve success, while 14.1% stated that "Nothing" needed to change within their program.

Discussion

Overall, the results generated some diversity of perceptions regarding technical college opinions from participants. However, most feedback identified that participants were generally pleased with their instructors, administration, and program. While participants did identify strengths and weaknesses regarding instructors, administration, and their program, the data indicated that participants identified more strengths than weaknesses, supporting their student success.

Students also identified high levels of satisfaction with classroom instructors as well. Furthermore, they identified that instructors' "Teaching Skills" and "Content Knowledge" were the two main key factors in promoting student success.

This suggests that their instructors were knowledgeable regarding the program content and prepared their students to enter their career field upon graduation. However, this also ties into the instructor weaknesses, in that, "Teaching Skills" and "Fairness" showed that some created barriers for student success by their lack of instruction abilities and perceived favoritism within the classroom. A clear set of teaching best practices, along with consistency of enforcement of rules and policies, could potentially increase the level of student success within the current institution.

Participants identified various strengths and weaknesses for administration, with "Assistance" being the highest rated strength. However, it was also the highest rated weakness at well. This could be based on different assistance received based on participant program enrollment. Participants identified that success due to technical college administration had elevated levels of agreement reported, while communication was lacking between administration and students. Additionally, gaining assistance from administration was identified as a barrier to success. These barriers identified issues that can be resolved by taking more time to get to know the students on a personal level, welcoming them into the administration offices, and ensuring they receive the help needed by asking questions and following up (Calcagno, Bailey, Jenkins, Kienzl, & Leinbach, 2008).

An overwhelming majority of students indicated that what they were learning within their program was essential to their success and future employment. However, it should be noted that they suggested changes to teaching instruction and allowing the students to have a more hands-on approach in learning in order to be more successful within their program.

Limitations and Implications for Practice and Future Research

As the majority of students that participated in the study were enrolled full-time, and in face-to-face programs these results can only be generalized to similar students. Additionally, this study was conducted at one technical college in the Southeastern United States; additional data should be gathered and analyzed at several locations to explore the full scope of what assists and impedes technical college students' success.

Future studies on technical college students' success and barriers to success should be conducted at different technical colleges throughout the United States to gain a better understanding of how student success is helped or impeded upon within different programs, states, regions, and colleges. While these students are similar to students within community colleges, when conducting research about their education and success, this specific population should be separated and evaluated separately from community colleges.

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