

ACTER *Association for
Career and Technical
Education Research*

2022

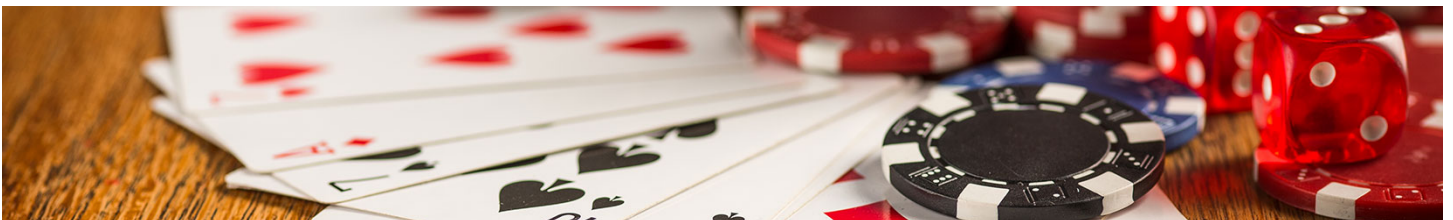
**Research and Professional
Development Conference**

Las Vegas, NV

November 28th to 29th, 2022

Doubling Down on CTE Student Success

#ACTER2022 - @ACTERCareerTech



ACTER *Association for Career and Technical Education Research*

ACTER is a national membership association that aims to stimulate research and development in CTE, to stimulate training and education programs designed to prepare people for responsibilities in CTE research, to foster cooperative CTE research and development activities, and to facilitate the dissemination of research findings and diffusion of knowledge.

2022 Leadership



<p>Mark Threton, President Pennsylvania State University</p> <p>Mickey Kosloski, President-Elect Old Dominion University</p> <p>James Bartlett, Past-President NC State University</p> <p>Xue Xing, Membership Secretary, University of Nevada Las Vegas</p> <p>Larae Watkins, Recording Secretary, University of Central Missouri</p>	<p>Jordan Dolfi, Treasurer, NC State University</p> <p>Julie Dainty, Historian Pittsburg State University</p> <p>Katherine Kandalec Holm, Ambassador-at-Large Athens State University</p> <p>Adam Atwell, Conference Program Chair Jobs for the Future</p>
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ACTER Trustees and Special Appointments

<p>Michelle Bartlett, Professional Development NC State University</p> <p>Katherine Kandalec Holm, Webmaster Athens State University</p>	<p>Jodie Adams, Finance University of Louisville</p> <p>Eddie Fletcher, Research The Ohio State University</p>
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ACTER Journals

Career and Technical Education Research (CTER)	Journal of Career and Technical Education (JCTE)
<p>Editor: In Heok Lee University of Georgia</p> <p>Associate Editor Eddie Fletcher, The Ohio State University</p> <p>Managing Editor Sara Shaw, University of Central Florida</p> <p>Editorial Board Chair Kevin Elliott, Pittsburg State University</p>	<p>Co-Editor Eddie Fletcher, The Ohio State University</p> <p>Co-Editor Victor M. Hernandez-Gantes, Univ of South Florida</p> <p>Editorial Board Chair Open</p>

 <h2>Omicron Tau Theta</h2> <p>A national, honorary, professional graduate society in CTE, established to acknowledge the achievement of graduate students, professional educators, and leaders of business, industry, and government in CTE.</p> <p>2022 OTT Trustee, Katherine Kandalec Holm</p>	 <p>http://www.theuniversitycouncil.org</p> <p>An organization of universities with doctoral programs in Career and Technical Education (CTE) and/or Human Resource Development (HRD) aiming to provide leadership for teaching, research, service, and policy initiatives in the field of practice shared by CTE & HRD.</p>
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<p>ACTE's CareerTech VISION http://www.acteonline.org</p> <p>The CTE Research and Professional Development Conference is a companion event of ACTE's annual CareerTech VISION and Expo, the premier gathering of more than 4,000 CTE professionals. ACTE (Association for Career and Technical Education) is a membership organization aspiring to empower educators to deliver high quality CTE programs that ensure all students are positioned for career success.</p> <p>Members align with one or more "divisions" related to program area and/or professional role. The New and Related Services Division includes 16 sections representing specializations that cross multiple career clusters. Research, Teacher Education, and Professional Development are 3 of the 16 NRS sections, and the Research section is headed by the ACTER Ambassador-at-Large. The Research, Teacher Education, and Professional Development sections will combine this year to form one NRS section, CTE Scholars, uniting ACTE members who study and teach CTE content in higher education settings.</p>	 <p>ASSOCIATION FOR CAREER & TECHNICAL EDUCATION®</p>
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Postsecondary CTE Research Fellows Program

Enhances and strengthens CTE Postsecondary research by supporting research, professional development, and conference travel of CTE Research Fellows at universities nationwide. Funded by the ECMC Foundation.

<http://go.ncsu.edu/ctefellows/>

Apply Now to be 23-24 Fellow!!! Application Deadline is April 1st, 2023.

#ECMCFellows

<p>Home About Webinars Research Fellows CTE Research Blog Events Apply</p> <p>Postsecondary Career and Technical Education (CTE) Research Fellows at NC State is a program to enhance and strengthen postsecondary CTE research at universities nationwide through the establishment of the Postsecondary CTE Research Fellows Program at NC State University, sponsored by ECMC Foundation. The program, based at the Belk Center for Community College Leadership & Research at the NC State College of Education, was established in 2018 through a three-year, \$2 million grant intended to enhance and strengthen postsecondary Career and Technical Education (CTE) research to improve student success and has been extended with a 1.3 million grant to support the program until 2025.</p>		
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MONDAY, NOVEMBER 28th, 2022	TUESDAY, NOVEMBER 29th, 2022
Conference Registration	Conference Registration
11 am – 5 pm, ACTER Registration, Westgate, Foyer	7:30 am, ACTER Registration, Westgate, Foyer
Past-Presidents Lunch	Welcome
12 pm to 1 pm, Invitation Only	7:45 am to 9:10 am, Breakfast, Pavilion 9
Pre-Conference Worksh0p	Greetings from the Conference Partners Mark Threeton, President, ACTER Katherine Kandalec Holm, OTT Michelle Bartlett, Pre-Conference Adam Atwell, Conference Program Chair
2 pm to 5 pm, Scholarship of Teaching, Diane Chapman, Associate Vice-Provost Faculty Development, NC State University, Conference Room 4,5,6	Welcome Address: CSN, View of Community College, and Role of CTE Dr. James McCoy, College of Southern NV
Editorial Board Meetings	Concurrent Sessions I
4 pm to 5 pm, CTER Editorial Board Conference Room 2,3	9:20 am to 10:40 am
Executive Committee Meeting	Concurrent Sessions II
5 pm to 6 pm, Executive Committee Meeting Conference Room 2,3	10:45 am to 12:05 pm
Research Poster Session and Opening Reception	Lunch & Round Tables
6:30 pm to 8 pm, Research Poster Session and Welcome Reception, Pavilion 1	Roundtables I: 12:10 pm to 1:00 pm Roundtables II: 1:10 pm to 2:00 pm
Fireside Chat	Concurrent Sessions III
8:00 pm to 9:00 pm, Obtaining and Advancing a Career in the Academy, Conference Room 4 5 6	2:05 pm- 3:25 p.m.
	Concurrent Sessions IV
	3:35 pm – 4:55 pm
	Business Meeting
	5:15 pm – 6:15 pm
	Executive Committee Meeting
	6:30 pm to 7:30 pm

Concurrent Sessions I: CTE Access, Alignment, & Outcomes
9:20 AM – 10:40 AM

Research Paper Session 1 – Conference Room 1,2,3

Discussant: Kathy Hughes, American Institutes for Research

Chair: Rooney Columbus, University of Michigan

<p>Paper 1: You Can’t Get There from Here: Uncovering Differences in Access to CTE Programs in New York and Connecticut</p> <p>Samuel J. Kamin, University of Connecticut</p>	<p>As Career and Technical Education (CTE) programming continues to expand to provide college and career preparation to a great deal of secondary students, concerns about equity arise as well. For example, current evidence suggests that there may be differences regarding historically disenfranchised students and their participation in CTE. One explanation may be that some students lack access to the variety of programming CTE has to offer. This paper explores two CTE implementation contexts for differences in access between potential high school students of differing racial backgrounds by examining distance from home census tract to programs, organized by career cluster. I find significant differences in access for students from areas with more Black/Latinx students in some career clusters.</p>
<p>Paper 2: How do Animal Science Standards Align: A Comparison of South Carolina Standards to AFNR Standards</p> <p>Kayla Marsh, Oklahoma State University Christopher J. Eck, Oklahoma State University Dale Layfield, Clemson University</p>	<p>Content standards are the basis which school-based agricultural education (SBAE) teachers develop effective and relevant instruction, preparing students for future agricultural careers. The purpose of this study was to determine the extent to which South Carolina SBAE standards align with the national AFNR standards for the animal science career pathway and the rigor at which they are written. This study implemented an existing data design, comparing the South Carolina animal science standards and the national AFNR animal science pathway standards through a content analysis. The analysis of standards demonstrates the lack of rigor in current standards. Although this study highlights concerns with SBAE standards in South Carolina, additional research is needed to see how other states standards align with AFNR standards.</p>
<p>Paper 3: Career Interests and CTE Course-taking: Does Alignment Exist in Personalized Learning Policies?</p> <p>Xue Xing, University of Nevada, Las Vegas Chengcheng Li, University of Nevada, Las Vegas Gillian Bowden, University of Nevada, Las Vegas</p>	<p>Career and technical education (CTE) is a core component of school-based career education in the United States. Individualized learning plan (ILP) aims to make learning relevant, useful, and purposeful for individuals. Both CTE and ILP are useful strategies for college and career readiness. This exploratory study examined statewide policy guidelines regarding the national career cluster framework and languages supporting alignment of CTE course-taking with individuals’ career interest. Results show general language supporting course planning in alignment with individual career interests. Yet these languages do not usually refer to CTE even if these courses directly prepare students for their interested careers.</p>

Symposium 1 – Conference Room 4,5,6

Chair: Nzingha Williams, Central Piedmont Community College

<p>Data Sources, Definitions, and Methods to Improving Policy and Outcomes in Career and Technical Education</p> <p>James E. Bartlett, II, NC State University Michelle Bartlett, NC State University Adam Atwell, Jobs for the Future Gresham Collom, University of Tennessee J. Jordan Dolfi, North Carolina State University Jackson Yan, University of Michigan</p>	<p>Career and technical education (CTE) is a diverse field with a broad umbrella that includes a wide range of industries and occupations. If the goal of CTE “is to develop more fully the academic knowledge and technical and employability skills of secondary education students and postsecondary education students” (Public Law 115–224, 115th Congress An Act), the goal of educational researchers in CTE should provide evidence to support this mission. This session will explore how the field defines high-quality CTE, data sources that measure CTE aspects, and how data can be used to conduct research and practices to improve CTE outcomes, including technical skills, academic knowledge, and employability. The symposium will dive deeper into the outcomes and components of high-quality CTE and how they are measured. Additionally, the symposium will explore different methods to measure the implementation and outcomes of CTE, including program-level data, individual student-level data, and real-time labor market data. The symposium will then discuss the specific types of quantitative and qualitative methods that can address problems facing CTE that will consider data availability, access to participants, and the research goals. The session will end with a call to ensure that individuals are conducting research that will better understand and improve CTE practices and the policies that impact the success of CTE.</p>
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Research Paper Session 2 – Ballroom E

Discussant: Jay Plasman, Ohio State University

Chair: Felix Quayson, Ohio State University

<p>Paper 1: Predicting Passing via Model Averaging with Nonparametric Estimators</p> <p>Natalie Millar, University of Alabama</p>	<p>In the United States, community college students account for nearly half of all undergraduates and approximately half of these students earn a credential or degree within six years of enrollment. The retention literature is rich, yet there is not a definitive consensus on the relevant covariates that best predict retention. I gather analyses addressing retention in higher education and employ a data-driven process to identify which models best predict retention. The model averaging technique heavily weights models that focus on student ability as well as neighborhood characteristics where the student resides; therefore, models that focus on aid, institutional characteristics, instruction, and peers are left with minimal weight in predicting retention. Additionally, I identify peer and institutional characteristics to be irrelevant.</p>
<p>Paper 2: The Effectiveness of Virtual CASE Institutes</p> <p>Scott Smalley, Iowa State University Laura Hasselquist, South Dakota State University Amber Rice, University of Arizona</p>	<p>The Curriculum for Agricultural Science Education (CASE) originated from an initiative from the National Council for Agricultural Education (NCAE) (CASE, n.d.-c). The NCAE orchestrated this initiative due to a lack of agriculture curriculum and professional development (PD) opportunities within the umbrella of Career and Technical Education. CASE can be described as an organization that provides teachers with access to enriching curriculum materials and transformative professional development in science, technology, engineering, and math (STEM).</p>
<p>Paper 3: Influence of Community Cultural Wealth on Undergraduate Women of Color’s Persistence in the STEM+C Workforce Pipeline</p> <p>Shetay Ashford-Hanserd, Texas State University Lillianna Franco Carrera, Texas State University</p>	<p>To promote racial and gender equity in the field of science, technology, engineering, mathematics, and computing (STEM+C) we must investigate prominent influences on historically underrepresented minority (HURM) women’s persistence in undergraduate education and beyond. With the apparent underrepresentation of Black and Hispanic women in the computing workforce, this preliminary study focuses on the experiences of this population as they persist in their undergraduate education at a Hispanic Serving Institution (HSI) in Texas. As part of a larger study, this mixed-method study employed the ACCEYSS STEM+C survey instrument and the counter-life herstories interview protocol to illuminate the community cultural wealth (CCW) factors and the relevant lived experiences that have influenced Black and Hispanic women’s persistence in undergraduate computing education. To center justice and equity, we utilize our revised CCW model as the theoretical framework to provide an anti-deficit understanding of how women of color access their strengths to survive and resist forms of oppression in racialized campus climates. The CCW model was modified to include spiritual capital as a critical source of fortitude and resilience in Black and Hispanic communities. Our findings will highlight the ways in which CCW factors influence Black and Hispanic women’s persistence or decisions to remain enrolled in undergraduate computing education in response to our collective need to better support this population in their attainment and representation in STEM+C disciplines.</p>

Concurrent Sessions II: Experiential Learning, Talent, & Professional Development
10:45 AM – 12:05 PM

Research Paper Session 3 – Conference Room 123

Discussant: Howard Gordon, University of Nevada, Las Vegas

Chair: Rosemary McBride, University of Wyoming

<p>Paper 1: Experiential Learning to Promote Enhanced Student Learning and Skill Development</p> <p>Mark Threeton, Penn State University Joey Fleck, Penn State University Matthew Bornack, Penn State University Jane Brooker, Alvernia University</p>	<p>Over the years, career and technical educators have embraced experiential learning (EXPL) as a research-based theoretical framework to promote the transfer of learning (Clark et al., 2010). However, implementation of EXPL in Career and Technical Education (CTE) programs can often differ from one instructor to the next based on their utilization of this framework. While one instructor might describe EXPL as “learning by doing”, another would explain that it is a developmental process of watching, thinking, doing and feeling. Thus, further investigation is needed to understand if there is a disconnect between EXPL and instructional practices. Through a focus group methodology, CTE educators were asked about their understanding and utilization of EXPL as they taught health and safety related content. The results revealed somewhat of a disconnect between EXPL and the instructional practices utilized in these programs.</p>
<p>Paper 2: Integrating Virtual Reality Technology into Beginning Welder Training Sequences</p> <p>Brittney Heibel, Texas State University Ryan Anderson, Texas State University Marshall Swofford, Texas State University Bradley Borges, Texas State University</p>	<p>Virtual reality (VR) training simulations display customizable quality-grading settings, physical environments, and can be modified to personal/professional preference. In this study, VR technology is utilized to enact meaningful and peer learning by providing visual and audial cues within the virtual training environment, improving weld performance skill development over a four-week span. This training method benefits learners by expediting their skill acquisition, adjusting their performance according to various feedback, and thereby experiencing meaningful learning. Results indicate participants’ weld scores continuously increased, as well as consistently scored 80% and higher, implying VR welding training effectively develops complex welding skills. We recommend that future research investigate the effectiveness of parameter cues and total cost-savings of integrated VR technology into welding training.</p>
<p>Paper 3: Career Technical Education – Perceptions of InSpIRE Cohort– Training for certification of non-education majors in Idaho</p> <p>Scott Straub, College of Western Idaho John Cannon, University of Idaho Carol Billing, University of Idaho</p>	<p>The purpose of this study was to add to the understanding of the level of preparedness of alternatively licensed teachers who graduated from the State Program Name Career and Technical Education (CTE) alternative certification program. As with other alternative teaching certification programs, Program Name teachers completed their educational coursework at the same time they began teaching. Graduates of Program Name were asked to complete a survey distributed via e-mail. Results showed that Program Name participants perceived that they were prepared to teach, with some components of the program perceived to be more helpful to teaching preparedness than others. Participants perceived their peer-to-peer interactions with other members of the cohort were the most helpful aspect in preparing them to teach in the classroom.</p>

Symposium 2: Conference 4,5,6

Chair: Andrew Diemer, St. Louis University

<p>The Work-Based Learning Ecosystem</p> <p>Jeffrey C. Sun, University of Louisville Jodi C. Adams, University of Louisville Kristin Wingfeld, Jefferson County Public Schools Jason Graves, Indiana Office of Work-Based Learning and Apprenticeships</p>	<p>The traditional “pipeline” model of the relationship among secondary schools, postsecondary schools, and industry is hindering CTE student success. Current practices leave many students confused about what their next steps are and how they can advance their careers, particularly as they transition from high school to college. Further, employers are overwhelmed and inundated with hiring and work-based learning requests, and schools and colleges present inconsistent and varied credits and academic treatment for similar or analogous experiences. It begs the question – how we create a seamless, consistent, and full-service experience for all the parties? This symposium will present insights on a systems-based approach to work-based learning through a community ecosystem. In the community ecosystem, school districts, community colleges, universities, and industry work collaboratively to take learners through the educational continuum to access work-based learning experiences and, ultimately, gainful careers. This symposium will discuss and illustrate four key elements to the community ecosystem: (1) Glide Path Experience: students and employers can access pre-mapped experiences and a seamless process, (2) Scaffolded Skill Development: following a Vygotskian approach, learning is layered and outlined into competencies so always building upon the learner’s existing knowledge base, (3) Inclusive and Equitable: experiences constructed with an inclusive and equity mindset and policies for the entire community, and (4) Team Centered: all stakeholders adopt a team approach to combine strengths and provide learners with the resources they need to achieve success. In this system, coaches/case managers provide consistent communication and clarity for learners navigating their career development.</p>
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Research Paper Session 4: Ballroom E

Discussant: Lisa Soricone, Jobs for the Future (JFF)

Chair: Adriane Graham, Old Dominion University

<p>Paper 1: Determining the Impact of Professional Development on Teachers’ Knowledge of Welding</p> <p>Kelly Hudson, Texas State University Ryan Anderson, Texas State University Douglas Morrish, Texas State University Rhett Sykora, Texas State University</p>	<p>The purpose of this study was to analyze the progression of welding knowledge of SBAE teachers who took part in an educational workshop. To determine the technical knowledge possessed by participants to instruct welding prior to and after attending, a ten-day intensive professional development with five days dedicated to welding. The participants reported a significant change in their welding knowledge as a result of participation in the welding workshop and administration of daily knowledge exams and modules. We recommend SBAE teachers who are responsible for teaching welding at the secondary level complete the Lincoln Electric train the trainer professional development workshop to improve their content knowledge and receive access to their curriculum.</p>
<p>Identifying Teacher’s Perceived Tools and Equipment Availability to Teach Welding Before and After a Professional Development Workshop</p> <p>Jacob Ramos, Texas State University Bradley Borges, Texas State University Ryan Anderson, Texas State University Douglas Morrish, Texas State University</p>	<p>A noticeable lack of appropriate training paired with the scarcity of consumable materials has had a severe impact on instructors, and ultimately the learning process for their students. It is important to create a learning environment with tools and equipment inclusive to the various agricultural industries. The quality, as well as variety, of tools and equipment maintained in the classroom by School Based Agricultural Education (SBAE) teachers affects the ability of the teachers to meet curricular and industry standards. Numerous factors play a part in the inadequacy of available teaching materials and equipment. At times, some instructional materials are unavailable in the desired quantities or qualities, making it a challenge to ensure effective utilization. Stifling deficiencies of resources and high-quality instructional materials can create obstacles for teachers as they help students meet state content standards, pass examinations required to progress to the next grade level and qualify for competitive opportunities in the workforce or post-secondary setting. Without the proper tools and equipment for agricultural educators, there is a potential threat of creating a gap in students’ ability to gain skills and knowledge in agricultural mechanics.</p>

<p>Paper 3: Exploring Business and Industry and Community College Partnerships for CTE: A View of Talent Development Professions</p> <p>Nicholas D’Antonio, NC State University James E. Bartlett, II, NC State University</p>	<p>For this pilot study, in-depth interviews were conducted with business professionals from various industries and locations across the United States. This study is a preliminary attempt to understand the business and community college collaborations for talent development and recruitment from the business’s perspective through the eyes of the talent development professionals. The talent development professionals would be the individuals in the organization that would work closest with the community colleges when developing strategies for staffing the workforce.</p>
<p>Paper 4: Teachers Teaching Turf: Measuring Changes in Educators After a Turf Institute</p> <p>Carson Letot, Penn State University Daniel Foster, Penn State University Jon Seaman, Penn State University</p>	<p>The turf industry is a major player in the world economy, and despite numerous opportunities for employment, a labor shortage exists. Interventions at the secondary level including a focus on youth organization competitions, content delivery, and the facilitation of experiential learning opportunities have been identified. An institute was hosted at [University] and a survey was conducted to assess teacher efficacy through the framework of Pedagogical Content Knowledge. Participants (n=10) in the pilot study were assessed on curriculum, instruction, and outreach. Results showed significant growth in overall confidence in teaching turfgrass science as well as facilitating opportunities for their students to work with local turf professionals through outreach. Future research will consider the findings to further explore student sentiments on turfgrass science and career opportunities as well as other populations of educators in the applied STEM space.</p>

Box Lunch & Roundtable Session I
12:10 – 1:00 PM, Pavilion 9

Online Experiential Learning in CTE (Table 1), Matthew Bornak, Pennsylvania State University

Skill-Gap Analysis of Kentucky CTE Educators (Table 2), Jeffrey C. Sun, Heather A. Turner, & Jodi C. Adams, University of Louisville

Automotive Technician Certification – The Relationship Between Certifications and Earned Income (Table 3), David Macholz & Michael Kosloski, Old Dominion University

African American Male Community College Students’ Perceptions on Earning Industry Certification in Career and Technical Education (Table 4), Felix O. Quayson, The Ohio State University

Examination of Graduate CTE/Workforce Development Programs in the United States (Table 5), Christel Hunter, Eunjung Jee, & Xue Xing, University of Las Vegas, Nevada

Increasing Rural Postsecondary Access: Effects of a College Counseling Program in Tennessee (Table 6), Cara DeLoach, Vanderbilt University

Exploring the Benefits of Incorporating Work-Based Learning into Short-Term Non-Credit Programs (Table 7), Micara Lewis-Sessoms, North Carolina State University

Increasing Awareness of and Participation in Postsecondary CTE Programs in Louisiana (Table 8), Kimberly Davis, North Carolina State University

A Multilevel Model Examining Labor Market Outcomes of California Community College Students in Career and Technical Education (Table 9), Catherine Choe, University of California, Los Angeles

Employers’ Perception of Students’ Attained Employability Skills (Table 10), Tabitha Young, Joseph Mukuni, & Natalie Ferund, Virginia Tech

Roundtable Session II
1:10 – 2:00 PM, Pavilion 9

Training in UDL Impacts Teachers’ Confidence and Self-Efficacy in The FCS Classroom (Table 1), Elizabeth Skinner & Karen Alexander, Texas Tech University

“Ante Up” for Equity in Research: An Equity Framework for CTE Researchers (Table 2), Lisa Soricone & Adam Atwell, Jobs for the Future (JFF)

Through Teachers Eyes: The Missing Links in CTE Teacher Recruitment and Retention (Table 3), Maria Border & Jeffrey Ben Matu, Pennsylvania State University

Pre-Service Student Teachers’ Perceptions of Co-Teaching: A Case Study (Table 4), Tabitha Young, Joseph Mukuni, & Natalie Ferund, Virginia Tech

Determining the Impact of Professional Development on the Importance to Teach Welding (Table 5), Kenedy Kornegay, Ryan Anderson, Douglas Morrish, & Brittney Heibel, Texas State University

Exploring Roles in Youth Pre-Apprenticeship Programs in CTE (Table 6), Russel Parker, James E. Bartlett, II, & Michelle Bartlett, North Carolina State University

CTE Teacher Recruitment, Training, and Retention Toolkit (Table 7), Jodi C. Adams, University of Louisville, Lisa Martino & Sara Shaw, University of Central Florida

Exploring Veterans’ Success in Registered Apprenticeships Using Propensity Score Matching (Table 8), Kamisha Kirby, Michelle Bartlett, James E. Bartlett, II, North Carolina State University

Concurrent Sessions III: High-Quality CTE: Viewpoints on Research & Practice
2:05 PM – 3:25 PM

Research Paper Session 5: Conference Room 1,2,3

Discussant: Indrit Vucaj, Metro Technology Centers

Chair: Dave Macholz, Old Dominion University

<p>Paper 1: What is “High-Quality Postsecondary CTE”? An Integrative Review of Definitions and Applications of the Term “High-Quality” to Postsecondary Career and Technical Education Programs</p> <p>J. Jordan Dolfi, NC State University James E. Bartlett, II, NC State University</p>	<p>This integrative literature review research study examined and synthesized the definition and application of the term “high-quality” to postsecondary career and technical education (CTE) programs as referenced in scholarly literature and national CTE and postsecondary organization white papers published 2016-2021. The study identifies the program inputs, processes, and outcomes associated with the application of this descriptor. This study generated new knowledge on the body of literature on high-quality postsecondary CTE. The findings from the integrative literature review shed light on both the inclusions and exclusions of contemporary literature and can serve as a foundational base for future research.</p>
<p>Paper 2: What does our community say needs to be taught? A Qualitative Delphi of Rural Community Views about Postsecondary CTE</p> <p>Rosemary McBride, University of Wyoming</p>	<p>The paper demonstrates how quantitative (labor force data and community surveys) and qualitative methods (narrative and thematic analysis) can be used in transformative research. Despite the recent interest in uncovering CTE outcomes in rural areas, relatively few studies problematize the impacts of race and space on differing viewpoints and disproportional outcomes of success. This study draws on a case study of two rural counties bordering a Native American Reservation. By analyzing and interpreting data collected in a Delphi-inspired exploratory study, I demonstrate the power of mixed methods to highlight racial and spatial differences in perceptions around CTE. Despite the limitations of the spatial scope, the big picture and the evidence demonstrate the need to include minority narratives in cumulative data.</p>

Symposium 3: Conference 4,5,6

Chair: Cara DeLoach, Vanderbilt University

<p>From multidisciplinary to interdisciplinary: Looking toward a future of integrative CTE research</p> <p>Anthony Perry, MIT; Jonathan Montoya, University of California- Irvine; Walter Ecton, Florida State University; Andrew Hughes, California State University, San Bernardino; Lisa Martino, University of Central Florida</p>	<p>The panel aims to share and explore emergent research possibilities at the intersections of three research perspectives: the CTE classroom, CTE teacher education, and state/federal CTE policy. CTE research tends to be approached from different units of analysis and timescales. Important advances have been made to investigate how state and federal policies impact student academic attainment and labor market outcomes. Simultaneously, student- and classroom-level research demonstrate the expansive and transformative possibilities of CTE. This symposium is designed to bring these paradigms into the conversation and explore how the theoretical and methodological tools of each perspective with the goal of address long-standing, wicked problems in CTE.</p>
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Symposium 4: Ballroom E

Chair: Carson Letot, Penn State University

<p>Success in Publishing: Crafting Publishable Manuscripts for Journals in the Field</p> <p>Samantha Godbey & Howard Gordon, University of Nevada, Las Vegas; Linda Martinez, California State University Long Beach; Sara Shaw, University of Central Florida; Henry O’Lawrence, California State University Long Beach</p>	<p>This symposium will explore various aspects of the publishing process, in particular within the field of career and technical education. The session, which includes journal editors and scholars at different stages of their careers, will include recommendations for successful manuscripts at the manuscript level, address publishing ethics and strategies to avoid author misconduct, and provide an overview of the current journals in the field. Publishing as related to graduate student success will also be discussed from both the student and faculty perspective. The content of this symposium will provide guidance to CTE graduate students, scholar practitioners, and current authors in the field, and also provide an opportunity for discussion directly with journal editors and experienced scholars.</p>
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Concurrent Sessions IV: Teacher Retention, Perceptions, and Voices from the Field

3:35 PM – 4:55 PM

Research Paper Session 6: Conference 1,2,3

Discussant: Christopher Eck, Oklahoma State University

Chair: Kimberly Davis, Louisiana State University

<p>What Motivates Agricultural Educators to Stay in the Profession? A Quantitative Analysis of Factors Influencing Educators Decision to Remain a Classroom Teacher</p> <p>John William Norris, Wetumpka (AL) High School Kirk A. Swortzel, Mississippi State University OP McCubbins, Mississippi State University</p>	<p>Agricultural education’s most pressing issue is a lack of qualified classroom teachers. In 2019, twenty-eight states reported the loss of over seventy agricultural education positions with many school’s closing the position due to inadequate staffing. The purpose of this study was to ascertain the impacts of various personal, employment, and instructional factors on the decision of agricultural educators to remain in the profession. It was determined that the top-rated individual factors included “Working with Motivated Students”, “Attitude Towards Students”, “Confidence in Educating Students”, and “Engaging Students”. Furthermore, using a MANOVA, it was determined that [State C] agricultural educators regarded the impact of personal factors and employment factors statistically more in their decision to remain in the profession than agricultural educators in [State B].</p>
<p>A Quantitative Analysis of the Perceptions of CTE Administrators on the Integration of Employability Skills into Agricultural Education</p> <p>John William Norris, Wetumpka (AL) High School Kirk A. Swortzel, Mississippi State University OP McCubbins, Mississippi State University</p>	<p>Preparing students for the workforce is a foundational pillar of education. This study sought to assess the perceptions of CTE administrators in [State A] and [State B] on the importance of agricultural educators integrating employability skills into their instruction. Each individual skill’s rating was combined into a construct score for the employability skill category being measured. Of the assessed skills, the most valued include Critical Thinking, Personal Qualities, and Communication. Furthermore, a MANOVA was used to ascertain any differences in perception held by CTE administrators between [State A] and [State B]. While the analysis did not return any statistically significant results, it could suggest that CTE administrators in [State A] and [State B] agree on which skills are most valuable.</p>
<p>What Keeps Technology and Engineering Teachers in The Classroom? The Quantitative Results from a National Mixed Methods Dissertation</p> <p>Cory Ortiz, Utah State University</p>	<p>This paper reports the findings of a dissertation assessing factors that predict Technology and Engineering Education (TEE) teachers' persistence in teaching. This paper addresses four quantitative research questions regarding the variables sense of belonging, efficacy, job satisfaction, and personal and professional characteristics on persistence intentions. The population sampled were teachers who were a part of the engineering Technology Education Division (eTED) of the Association for Career and Technical Education (ACTE). The data analysis consisted of two regression models and a follow-up mediation analysis. The first model found job satisfaction predicted persistence while the second found sense of belonging predicted job satisfaction. This study found job satisfaction mediated the relationship between sense of belonging and persistence.</p>

Research Paper Session 7: Conference 4,5,6

Discussant: Felix Quayson, Ohio State University

Chair: Walter Ecton, Florida State University

<p>An Exploration of W.E.B. Du Bois’ Ideals through Literature and its Impact on the Perception of Career and Technical Education among Black Parents in the 21st Century</p> <p>Nzingha Williams, NC State University</p>	<p>This is an integrative literature review of the philosophy of W.E.B. Du Bois towards career and technical education. If there is acknowledgment of the history of career and technical education among Black Americans, a better approach for recruiting Black students to participate in CTE may be realized. The theoretical framework shaping this study is critical race theory (CRT). The research question guiding this study is how has the philosophy of W.E.B Du Bois influenced Black American communities’ perception of CTE by existing literature? The findings add a different perspective to the philosophies espoused W.E.B. Du Bois. The literature revealed Du Bois was an advocate of career and technical education as a method for educating the Black community.</p>
<p>Examining the Lived Experiences of California Hispanic Agriculture Teachers</p> <p>Samuel Rodriguez, Cal State University, Fresno Christian Wandeler, Cal State University, Fresno</p>	<p>Teachers of color are underrepresented in Career and Technical Education (CTE), particularly in high school Agriculture programs in California. The overarching purpose of this sequential mixed-method study was to examine the lived experiences of Hispanic Agriculture teachers in California. This paper focuses on the quantitative portion. The focus was examining the differences in autonomy, competence and relatedness depending on years of teachers’ experience, membership in professional organizations and levels of funds of knowledge. A quantitative survey that reached almost the entire population of Hispanic Agriculture teachers in California indicated that years of experience in teaching and membership in professional organization for Hispanic Agriculture teachers (CATA) is positively related to higher levels in autonomy, competence and relatedness.</p>

Research Paper Session 8: Ballroom E

Discussant: Anthony Perry, MIT

Chair: Rosemary McBride, University of Wyoming

<p>The Relationship Between Teachers’ Perceptions of Career Readiness and Their Instructional Intentions</p> <p>Brooke Thiel, North Dakota State University Adam Marx, North Dakota State University</p>	<p>This study examined whether a relationship existed between teachers’ perceptions of career readiness and their intention to teach employability skills, which included (a) professionalism and work ethic; (b) teamwork and collaboration; and (c) critical thinking and problem solving. A survey was sent to secondary teachers in [state] to assess their perceptions of career readiness and their instructional intentions. Three multiple linear regression models were tested to measure the effect of perceptions of career readiness on instructional intentions. In all cases, perceptions of career readiness made a significant contribution to teachers’ intentions to teach employability skills, with effect sizes ranging from 10% to 18%. Thus, future research is recommended to explain what other factors impact teachers’ decisions to teach employability skills.</p>
<p>Educator Viewpoints Toward High-Quality Postsecondary Career & Technical Education: A Q Methodological Study</p> <p>J. Jordan Dolfi, North Carolina State University James E. Bartlett, II, North Carolina State University</p>	<p>This study implemented a Q-methodology design to uncover perceptions held by postsecondary CTE educators on program inputs and processes most important or most unimportant to “high-quality” programming. The concourse for this Q-sort was built from ACTE’s 2018 High Quality CTE Framework Tool, which includes 12 categories of 92 high quality program elements. Seven distinct faculty viewpoints emerged from data analysis, including both quantitative and qualitative analyses. The findings from this study contribute to understanding of postsecondary CTE educators’ perceptions of high-quality CTE. The findings from this study are significant to the field as they can be used by educational leaders and policy makers to support and emphasize elements that are consistently ranked less important across all factor groups.</p>

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5:00 PM – 6:15 PM , Pavilion 9

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ACTER Posters

Poster 1: An exploratory comparative case study on the effectiveness of multi-level governance frameworks in promoting inclusive and equitable practices in technical and vocational education and training, Jeffrey Ben Matu, Pennsylvania State University
Poster 2: Examining Equity in Career and Technical Education: The Correlation Between Perkins Funding and Career and Technical Education Enrollment, Jack Eliot, Texas A&M University
Poster 3: Mental Health Matters: A Content Analysis of Mental Health Resources in Career and Technical Student Organizations, Megan Gould & Meikah Dado, Texas A&M University
Poster 4: The Relationship Between Technical Skill Attainment and Post-Graduation Related Placement of Secondary Career and Technical Education Students in Missouri, Michael Pantieo & Michelle Conrad, University of Central Missouri; Kemaly Parr & Brian Parr, Murray State University
Poster 5: Career and Education Planning as Experienced by Young Black Women, Twyla Hough, Karen Alexander, & Christy Rogers, Texas Tech University
Poster 6: Deeper learning professional development for high school agriculture teachers, Chaney Mosley, Ying Jin, Song Cui, Middle Tennessee State University
Poster 7: CTE Teacher Needs Assessment on Farm to Fork Movement, Nicole Graves & Laura Hasselquist, South Dakota State University
Poster 8: Identifying Leadership Skills for Career Technical Education Administrators for Students' Success, Joey Fleck, Mark Threeton, & Mihee Park, Pennsylvania State University
Poster 9: Academic and Labor Market Outcomes of Postsecondary Career and Technical Education: Evidence from Missouri, Andrew Diemer, Saint Louis University
Poster 10: 10. Advancing Racial Equity in Postsecondary Career and Technical Education: A Qualitative Approach to Understand Access and Participation for African American Males, Felix O. Quayson, The Ohio State University
Poster 11. CTE Instructors Rank Order of Instructor and Student Challenges During the Pandemic, Michell Bartlett, James Bartlett, MJ Self, J. Cannon, S. Arnett-Hartwick, C. Billings, M. Borr, K. Elliott, A. Kitchel, & Jeffrey J.
Poster 12. Determining the Impact of a Welding Workshop on a Teacher's Ability to Teach Welding, Ryan Anderson, Meridith Keith, & Douglas Morrish, Texas State University
Poster 13. Determining the Impact of the Agricultural Mechanics Academy on School-Based Agricultural Educator Teachers Ability to Weld, Ryan Anderson, Lourdez Garza, & Douglas Morrish, Texas State University
Poster 14. Engaging Communities' Input in Developing an Introductory Diversity, Equity, Inclusion, and Justice Course in Graduate Workforce Education Curriculum, Xue Xing, University of Nevada, Las Vegas; Latasha Wilson, Pflugerville Independent School District; Tammy Caesar, Austin Independent School District
Poster 15. A Survey of Postsecondary Training Viability for VADOC Ex-Offenders, Adriane Graham, Old Dominion University
Poster 16. Teachers' Perceptions of Students' Views on Agriculture and Agricultural Careers, Jessica Myschisin, Kendra Flood, & Kevin Curry, Pennsylvania State University
Poster 17. An Examination of the Relationship of Retention and Professional Identity Formation of Nurse Educators, 18. Jodi C. Adams, University of Louisville
Poster 18. School-based Agricultural Educators' Experiences, Awareness, and Professional Development Needs Associated with Suicide. Chaney Mosley, Middle Tennessee State University; Christopher Clemmons, Don Johnson, Carla Jagger, Eric Rubenstein, Rebekah Epps, Kristin Stair, OP McCubbins, Jason Davis, Jon Ramsey, Edley Santiago, Dale Layfield, Chris Haynes, and Andy Seibel
Poster 19. Effects of CTE Admissions Offer on High School Outcomes, Marc Stein, Johns Hopkins University; Jay Plasman, The Ohio State University; Rachel Durham, Notre Dame of Maryland University; Zyrashae Smith, Johns Hopkins University
Poster 20. Perception of Local CTE Administration on STEM Skills Integration into Agricultural Education, John William Norris, Wetumpka (AL) High School; Kirk Swortzel & OP McCubbins, Mississippi State University

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