

Academic Program Review

Ferris State University
College of Education and Human Services
School of Education

Master of Science in Career & Technical Education
And
Advanced Graduate Certificate in Total Quality Management in
Education

2018-19

ACADEMIC PROGRAM REVIEW

Master of Science in Career and Technical Education And Advanced Graduate Certificate in Total Quality Management in Education

August, 2018

My signature below indicates that I was a contributing member of the Program Review Panel responsible for completion of the final Academic Program Review report submitted for review by the Academic Program Review Council, Academic Senate, Provost, and President of Ferris State University and attest to its completeness and soundness:

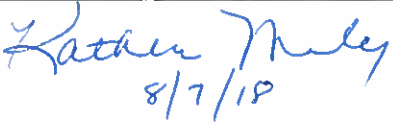



Signature and Date	Name	Role	Phone and Email
 8/7/18	Katherine Manley	Chair	231-591-2726 manleyk@ferris.edu
	Liza Ing	Administrative Representative	231-591-5362 LizaIng@ferris.edu
Signature not available	Virginia Hines	Program Faculty	231-591-3054 VirginalHines@ferris.edu
	Mike Ennis	Program Faculty	810-762-5156 MikeEnnis@ferris.edu
	Michelle Kelenske	Individual with Special Interest in the Program	231-591-3642 MichelleKelenske@ferris.edu
Signature not available at time of submission	Mike Feutz	Faculty Member From Outside the College	231-591-2351 MikeFeutz@ferris.edu

Table of Contents

Contents

Program Name and History	6
.....	6
Program Name: Master of Science in Career & Technical Education	6
Program Name: Advanced Graduate Certificate in Total Quality Management in Education.....	7
Program Mission.....	9
Incorporating the Mission	10
Program Goals	11
Incorporating program goals.....	12
Strategic Plan.....	12
Goal Attainment	16
Curriculum	19
Assessment of Student Learning	24
Program level student learning outcomes	24
Program Profile.....	26
Apps, Admits, and Enrolled	27
Enrollment - Headcounts.....	29
Student Credit Hour Trends.....	31
Productivity	32
Enrollment – Residency	32
Enrollment – Gender and Ethnicity	34
Program Graduates	35
Graduate Average GPA.....	38
Graduate Average ACT	39
State and National Examinations	39
Program Value beyond Productivity and Enrollment Numbers.....	39
Professional Development	39
Advanced Degrees.....	40
Program Flexibility and Access	40
Visibility and Distinctiveness	41
Competitive Programs.....	42

Preeminent Program	44
Demand	46
Labor Market Demand	47
Student Achievement	50
Employability of Graduates	51
Faculty Composition and Engagement.....	52
Organization	52
<i>Service</i>	53
Stakeholder Perceptions of the Quality and Composition of Faculty	58
Program Policies and Procedures.....	60
Hiring and Retention	60
Program Administration and Support	60
Staff	61
Support Services	61
Facilities and Equipment	62
Space	62
Computers	63
Equipment	63
Perceptions of Overall Quality.....	63
Implementation of Findings	65
Appendix A—SOE Strategic Plan	66
Appendix B –Current Student Survey Results	72
Appendix C—Alumni Survey Results	81
Appendix D—Course Syllabi	96
Appendix E—MSCTE students earning Doctorate Degrees.....	97
APPENDIX F VITAE Katherine Manley.....	101
APPENDIX G VITAE F. Michael Ennis.....	139

Table of Figures

Figure 1 Comparison of the FSU, COEHS and SOE Mission Statements	9
Figure 2 School of Education Program Goals	11
Figure 3 Master of Science in Career and Technical Education Goals/Outcomes	11
Figure 4 Results From Current and Alumni Survey Regarding Gains and Progress in Specific Areas	12
Figure 5 School of Education Graduate Program Long Term Strategic Plan	14
Figure 6 School of Education Graduate Program Short Term Strategic Plan	15
Figure 7 SOE Goals with Percent of Students Rating the courses Aligned to the Goal as Very or Somewhat Important.....	16
Figure 8 Michigan Department of Education Initial Certifications 1996-2016.....	17
Figure 9 Michigan Department of Education Number of Initial Certificates and MI Pupil Count.....	18
Figure 10 Michigan’s Provisional Interim Occupational Certificates by Year	18
Figure 11 Career & Technical Education Graduate-Level Domain Degrees and Certificates (with links to checksheets)	19
Figure 12 List of Graduate Courses in Master’s Degrees and Advanced Graduate Certificates with Semester Offered	20
Figure 13 MSCTE Students Applied, Admitted and Enrolled On and Off Campus	27
Figure 14 Five-Year Enrollment On and Off Campus	27
Figure 15 Five Year Enrollment On and Off Campus	28
Figure 16 Applied, Admitted and Enrolled for MSCTE	28
Figure 17 Five-Year Overall Headcount Enrollment by Semester	29
Figure 18 Five Year Headcount Enrollment by Program On and Off Campus	30
Figure 19 MSCTE By Option and ASTQ Student Credit Hours	31
Figure 20 Productivity by Semester and Year.....	32
Figure 21 Enrollment Residency for MSCTE by Semester	33
Figure 22 Five-Year Enrollment by Gender and Ethnicity by Semester.....	34
Figure 23 MSCTE and ASTQ Program Graduates.....	35
Figure 24 Number of Graduates (FSU Factbook 2017-18) by Total and Program.....	36
Figure 25 Number of Graduates by Year Aggregated by Total and Program.....	36
Figure 26 Graduates in Advanced Graduate Certificate in Total Quality Management in Education.....	37
Figure 27 Average GPA with Average Minimum and Maximum.....	38
Figure 28 Average ACT with Average Minimum and Maximum	39
Figure 29 U.S. Census Bureau Educational Attainment of Adults Age 25 and Older	40
Figure 30 Alumni Survey Results (Table 20) and Current Student Survey Results (Table 16).....	46
Figure 31 O’Net Projected Employment for Career/Technical Education Teachers, Secondary School in MICHIGAN.....	48
Figure 32 O’Net Projected Employment for Vocational Education Teachers, Postsecondary in MICHIGAN.....	49
Figure 33 Yearly Wages for Career/Technical Education Teachers, Secondary School in MICHIGAN	49
Figure 34 Yearly Wages for Vocational Education Teachers, Postsecondary in MICHIGAN	50
Figure 35 Advanced Graduate Certification in TQM Graduates Enrolling in the Western Michigan University Doctorate Program	51
Figure 36 Faculty Profile of MSCTE Courses	52
Figure 27 Current Student Survey Results Regarding Faculty and Program	58
Figure 38 Percent Alumni Perception of Faculty and Program	59

Figure 39 Faculty Perception of MSCTE Strengths and Opportunities for Improvement 64
Figure 40 Faculty perceptions of the Advanced Graduate Certificate in TQM had an average rating of 96/100.. 64
Figure 41 Comparison of CAEP Process for Accreditation to FSU APR Process 65

Program Name and History

Program Name	Advanced Graduate Certificate	Dean	Director	Full-time, Tenure Track Faculty
<ul style="list-style-type: none"> •Master of Science in Career & Technical Education •Instructor Option (CTIN) •Postsecondary Administration Option (CTPS) •Training and Development Option (CTTD) 	<ul style="list-style-type: none"> •Total Quality Management in Education (ASTQ) 	<ul style="list-style-type: none"> •Arrick Jackson 	<ul style="list-style-type: none"> •Liza Ing 	<ul style="list-style-type: none"> •Katherine (Kitty) Manley, Professor •F. Michael Ennis, Professor

Program Name: Master of Science in Career & Technical Education

The graduate program in Career and Technical Education prepares leaders with the expertise to guide student learning in career and technical education (CTE) in both academic and business/industry settings. The program serves professionals from the Career and Technical Education (CTE) curriculum disciplines, academic content areas, adult education, training and development, as well as human resource development and management in the public and private sectors.

The College of Education & Human Services (COEHS) has its roots in the founding of Ferris State University (FSU) when Dr. Woodbridge Ferris determined that the institution would provide all students in Michigan with opportunities for careers. Consequently, Ferris had to establish a course of pedagogy to teach the skills, knowledge, and understandings for the career opportunities. Throughout the 19th and 20th centuries, the COEHS focused on preparing secondary, career and technical, and business educators. Recently, it became a full-service educational college offering educational degrees through its School of Education. The educational degrees now range from an associate degree in early childhood education to master's degrees in curriculum and instruction with various interest tracks and career and technical education.

The School of Education within the COE&HS has been in the forefront of CTE teacher education for many years. All programs emphasize the need for CTE teachers highly skilled in their area of specialization and thoroughly prepared in the art of teaching. Many CTE teachers in Michigan's secondary school, area career center, and postsecondary institutions are FSU graduates. The curriculum at FSU, both in specialty/content areas and in teacher education, are competency-based and continuously change to reflect society, education, and technological changes and needs.

In 1984, Dr. Scott Whitener, department chair for the Teacher Education unit, wrote and received approval to offer Ferris State College's FIRST graduate degree—Master of Science in Occupational Education (MSOE). Dr. Katherine Manley and Dr. Edward Cory were hired to implement this **first graduate degree** program offered at Ferris State College. The program was designed to service ALL vocational teachers statewide. In fact, at the beginning of the program, many students were Ferris faculty members seeking master's degrees. The President of Ferris, Dr. J. William Wenrich (President 1984-1988) offered all community college

occupational education program the opportunity to send one faculty member to earn the MSOE through what was called the Wenrich Scholarship. The scholarship covers 12 credit hours allocated over two semesters within one academic year.

The program has since changed its name from “Occupational Education” to “Career and Technical Education” as the 2006 Carl D. Perkins legislation changed the term “vocational education” to “career and technical education.” The program currently offers three concentrations or options including

- **Instructor Option** designed to current and future CTE instructors at the secondary or postsecondary area
- **Post-secondary Administration Option** designed for individuals who want to assume a leadership role in CTE at the secondary or postsecondary level
- **Training & Development Option** designed for individuals who work in a training unit in a company or organization

Over the 35 years, the CTE graduate program offered additional concentrations in

- Educational Technology in cooperation with the College of Business,
- a special option in cooperation with the College of Pharmacy at FSU,
- a special option in cooperation with the Professional Tennis Management Program at FSU
- and a Secondary Administrator option prior to the Michigan Department of Education instituting administrator certification.

In 2014, the program received approval for three additional Advanced Graduate Certificates in (NOTE These are NOT part of the APRC process)

- CTE Administration (9 credits)
- CTE Fundamentals (9 credits)
- Workforce Development (9 credits)

Program Name: Advanced Graduate Certificate in Total Quality Management in Education

The concept of an Advanced Graduate Certificate was new to Ferris in 2000; however, the need for this type of credential seemed a logical step in the graduate level offerings. The Advanced Graduate Certificate in Total Quality Management was developed in 2000 by Dr. Katherine Manley after she began to learn through her consulting with companies such as Toyota Motor Manufacturing, General Mills, 3M, Nestle, Sony, Dupont, Disneyworld, Kellogg, etc. about the quality principles being used in large corporations in the USA. Dr. Manley began to explore the Total Quality Management (TQM) in the early 1990’s as she found companies using the management approach to long-term success through customer satisfaction and began applying it to educational organizations.

In 1988 the U.S. Department of Commerce developed the Malcolm Baldrige Award named after the Secretary of Commerce, Malcolm Baldrige. The main purpose of the award was to encourage more companies to adopt quality management principles and is designed around a set of Performance Excellent criteria. Between 1990-1993, Dr. Manley attended many seminars to learn how educational organizations were implementing the TQM principles and in 1993 was selected to attend the Dr. W. Edwards Deming Four Day Seminar sponsored by Ford Motor Company.

In 1993, the Michigan Quality Council was formed in partnership with Michigan organizations and the State of Michigan. The Michigan program is currently called the Michigan Performance Excellent (MIPEX) and assists organizations in improving their performance through the application of proven continuous improvement concepts that ensure desirable results for customers, owners, employees and other stakeholders. Dr. Manley became involved in the Michigan Quality Council in 1999 and still serves on the Board of Judges for the state award. She served as a national examiner in the Quality Leadership Award Program from 2001-2005.

MIPEX PANEL OF JUDGES

- Greg Gruska, Omnex
- Joe Knight, Detroit Manufacturing Systems
- Miriam Kmetzo, Executive Vice President, Welding Technology Corporation (Chair)
- **Kitty Manley, Ferris State University**
- Mary Pool, Director, Quality and Patient Safety, McLaren Port Huron
- Bo Snyder, President, Bo Snyder Consulting, Inc.
- Trish Stoltz, Senior Consultant, Goonan Performance Strategies

In 1999 Ferris State University's College of Education entered into a cooperative relationship with Western Michigan University (WMU) to offer a new concentration in Career and Technical Education (CTE) within WMU's Educational Leadership program. The CTE concentration will lead to a Ph.D. in Educational Leadership awarded from Western Michigan University. The CTE concentration within the existing Ed.D. degree will prepare individuals for administration, curriculum, and educational leadership positions for K-12 school systems, area technical centers, and community colleges, employment and training agencies, and teacher education institutions involved with CTE.

The joint doctoral degree program provides an opportunity for two state universities to create and refine a model of cooperation that will promote the efficient use of limited resources while at the same time provide a program of academic excellence to accomplish the following goals:

1. address the regional and statewide personnel needs for individuals needing advanced training and professional preparation for the field of career and technical education;
2. enhance opportunities for faculty and student to develop and implement related research in CTE;
3. improve the ability of the participating universities to acquire public and private research funding, which increasingly favors consortium and interagency cooperation; and
4. enable participating faculty and student's opportunities for professional growth, idea-sharing, and dialogue between sponsoring institutions.

As a unique contribution to this joint venture, FSU's, College of Education and Human Services proposed a Quality Track Certificate that would serve as one of three focus areas in the WMU's program. While this 12-credit certificate would satisfy one of the areas for the students enrolled in WMU's program, this certificate could be offered to a wider audience and separate from the WMU joint program. The certificate is centered around the principles of total quality management and the Malcolm Baldrige National Quality Award criteria for Educational Programs.

It was the belief of the Western Michigan University and Ferris State University that the Malcolm Baldrige Criteria can significantly improve the schools, especially the career and technical institutions at the secondary and postsecondary institutions. The rationale for this is centered around management issues, failure-prevention and success orientation emphasis, accountability issues, and information and knowledge issues.

The audience are graduate students enrolled in the WMU-FSU Ed. Leadership doctorate and administration, curriculum, and educational leadership personnel in K-12 school systems, area technical centers, and community colleges, employment and training agencies, and teacher education institutions.

A survey conducted by WMU when the program began at WMU indicated that there were over 300 individuals interested in the WMU-FSU doctorate. The first semester of the program 15 students were admitted to the doctorate program.

Program Mission

Ferris State University, the College of Education and Human Services, the School of Education, and the Graduate Program missions all share the common goal of hands-on learning and employability. By having alignment in all areas in support of the graduate program, collaboration and partnerships become the focus for faculty. Through collaboration and partnership, students are supported through their coursework and shaped into the early childhood leaders of the future. Figure 1 contains the comparison of the FSU, COEHS, and SOE Mission Statements.

Figure 1 Comparison of the FSU, COEHS and SOE Mission Statements

<i>FSU Mission Statement</i>	<i>College of Education & Human Service Mission Statement</i>	<i>School of Education Mission Statement</i>	<i>Program Mission Statement</i>
Ferris State University prepares students for successful careers, responsible citizenship, and lifelong learning. Through its many partnerships and its career- oriented, broad-based education, Ferris serves our rapidly changing global economy and society.	The College of Education and Human Services strives to graduate students who will secure careers as knowledgeable, participatory and collaborative professionals; who adapt to, serve, and participate meaningfully in a diverse and rapidly changing state, nation, and world; and who model life-long learning and integrity in their professions, their communities, and their lives.	The Mission of the School of Education of Ferris State University is to prepare students for careers as quality educators whose contributions will enrich lives through dedication to leadership, life-long learning, reflection, and collaboration in the classroom, school, and greater community.	The program shares the department's mission to prepare students for careers in education. There is not a separate mission statement for graduate programs. A discussion surrounding the need for a specific mission statement for this program has never occurred.

Incorporating the Mission

The program is aligned with the mission of both the College and the University in that it promotes life-long learning and is career oriented. Students completing the program are employed in a variety of settings across the State of Michigan. Most of these students are teachers in secondary school systems who make an impact on the states youth or serve as instructors in the community colleges in a technical or vocational field. Several students in the program are employed in other fields and the knowledge that they construct allows them to be successful in their respective roles.

When the MSCTE program was created in 1984, the Teacher Education department only certified vocational, math and science teachers. As the program grew to include other academic areas (e.g., history, English, social studies, elementary education, etc.), the graduate offerings expanded to include a Master's in Education. As Michigan's Department of Education implemented new certification requirements for school administrators, an additional graduate degree was implemented, the Master of Science in Educational Leadership. Any curricular changes are based on the concept that educational curriculum is not a product but rather a process as new strategies in how student learn impact how teachers must teach. As processes in learning change, the curriculum also changes. Therefore, the changes in our curriculum are based on

- Change and advancements in research-based pedagogy and knowledge as well as changed in technical standards required in both the discipline of education and in content-specific fields
- New strategies regarding the craft of teaching
- Compliance with the FSU's University Graduate and Professional Council policies and regulations
- Implementation our accreditation requirement that our department provide solid evidence that the universities' graduates are competent and caring educators (Council for the Accreditation of Educator Preparation (CAEP))
- Directives from the Michigan Department of Education including the Office of Career & Technical Education (OCTE)
- Use of APR feedback from former and current students
- Annual faculty retreats

The mission of the program, which at this time is the same as the department, is communicated

- on the SOE web (<https://ferris.edu/HTMLS/colleges/educatio/education/homepage.htm>)
- in our graduate handbook which all students are given access (page 5)
<https://ferris.edu/HTMLS/colleges/educatio/education/newpdf/GraduateHandbook.pdf>
- during the online graduate orientation that all SOE graduate students must complete

There are no specific policies or procedures in place to monitor the program's mission and its relationship to the department, college, and university; however, as part of our continuous improvement process required by the accrediting agency, faculty and staff review the mission and goals of the program. This program is an extension of our undergraduate programs and, therefore, is reflective of furthering the missions of the department, college and university. In addition, through the APR process, the department has discussed the need for a graduate program mission separate from the department mission.

Program Goals

The School of Education Graduate Program Goals/Outcomes and the MSCTE Goals and Outcomes are shown in Figures 2 and 3 below. Notice that each Program Goal/Outcomes is linked specifically to courses.

Figure 2 School of Education Program Goals

1. Graduates demonstrate competence and application of data driven decision making through scholarly/technical writing, learning analytics, and project design and implementation (EDUC 663).
2. Graduates demonstrate critical understanding of the social and political influences upon their respective fields (ECTE 500, EDUC/ECTE 516).
3. Graduates will utilize the latest technology in their respective fields to enhance learning and increase productivity (EDUC 540).
4. Graduates will demonstrate understanding of cultural competency and diverse learner needs in response to the ever-changing global society (ESPN, EDUC 508, EDUC 518, and EDUC 630).
5. Graduates will design and evaluate instructional programs using best practices in their respective fields (EDUC/ECTE 504, EDUC 620, EDLE 520, ECTE 607, EDUC 681)

Figure 3 Master of Science in Career and Technical Education Goals/Outcomes

1. Students in the MSCTE will demonstrate ability to design a project and integrate scholarship in their specific area of inquiry within CTE or their work-based field (Outcome 1,2,5)
2. Students in the MSCTE will use technology to support decision-making, communication, training/instruction, and learning (Outcome 3)
3. Students in the MSCTE will utilize data to make decisions on project need, design, implementation and evaluation for education and training (Outcome 1 and 5).

Clearly the program goals are designed to prepare students for a professional career in education or corporate training. As a professional educator and/or trainer, the profession itself requires that they be responsible citizenship, lifelong learners, and meet the needs of employers and other stakeholders. Just like doctors, lawyers, and other professionals, educators never stop learning new techniques and strategies to hone their craft and remain on the cutting edge of their field. The program goals support the need for teachers to be responsible citizens and lifelong learners.

During 2018, the MSCTE APR committee created and sent a survey to both current students and alumni. In the results document of the current student (Appendix B Table 18) and alumni (Appendix C Table 23) surveys, we specifically asked students to what extent they feel they have gained or made progress in each of the following areas. The results are summarized in the Figure 4 below

Figure 4 Results From Current and Alumni Survey Regarding Gains and Progress in Specific Areas

		Current Students (Very Much or Quite a bit) N=7	Alumni Survey (Very Much or Quite a bit) N=17
1	Desire to make a difference for those I teach and/or work	100%	88.2%
2	To generally improve myself professionally	100%	100%
3	Desire to be a life-long learner	100%	76.5%
4	Ability to learn on my own, pursue ideas and find information	100%	88.2%
5	To use and interpret research and data	83.7%	88.3%
6	Ability to think analytically and logically	100%	88.2%
7	Writing clearly and effectively	83.7%	76.4%
8	Acquiring skills in using the internet	83.7%	76.5%
9	Acquiring computer and technology skills	83.7%	52.9%
10	Speaking clearly and effectively	50.0%	64.7%

Incorporating program goals

Program goals are included on the School of Education website. They are also included in the Graduate Student Handbook which is on the website and in the online orientation. The program goals are directly aligned to the core course requirements of each master’s degree in the SOE. The program goals are reviewed as changes are required by the Michigan Department of Education (MDE) or through the accreditation process via retreats, faculty committees, or meetings. Although revisited during annual retreats and during graduate committee meetings, program goals have not changed in the last 5 years.

As curriculum changes are made (especially curriculum changes to core courses), the goals are automatically reviewed and re-evaluated. There have not been significant changes made to the curriculum in the last five years.

Strategic Plan

During 2017-2018, the School of Education developed, and in May, 2018, adopted a strategic plan that centered around four main areas (1) Programs and Candidates, (2) Faculty: Teaching, Service, Professional Development, and Scholarship, (3) Advising and Support Services, and (4) Partnerships and Collaboration. The complete plan may be found in Appendix A. The plan included four strategic initiatives aligned to the four main areas:

Initiative I: The SOE will provide high-quality teacher preparation education that produces competent and caring practitioners

Initiative II: The School of Education will invest in the professional growth and practice of faculty through the development of effective technology enhanced learning environments and provided opportunities in faculty/staff development, mentorship, and scholarship.

Initiative III: The School of Education provides guidance, advisement, and a sense of belonging through multiple means to assure teacher candidate success

Initiative IV: The School of Education is a leader in the initiation and sustainability of collaborative partnerships across the campus and greater learning communities

While many of the strategies identified in the plan include the work required for our upcoming CAEP accreditation at the undergraduate level, there are several strategies specifically related to the graduate students.

(1) The SOE will provide high-quality graduate education, which produces exemplary in-service professional educators.

In January 2016, the Graduate Committee was reestablished and meets monthly to monitor the strategic plan. The objectives of this committee include

- 1) review and update graduate program policies,
- 2) review and update graduate programs, curriculum, and courses,
- 3) review and update graduate program recruitment and marketing materials,
- 4) encourage graduate student participation in professional conferences and seminars,
- 5) identify and implement new recruitment strategies
- 6) explore new sources of grants and contracts to support graduate students, and
- 7) coordinate graduate student mixers. Metrics to review progress will be established during the meetings of the Graduate Committee 2016-2017.

Figure 5 School of Education Graduate Program Long Term Strategic Plan

Goal	Objective	Activities
Goal 1: Increase faculty capacity for program delivery.	Recruit and retain quality faculty for open positions.	Filled 2 graduate faculty positions (none related to MSCTE)
	Support ongoing professional development and research for faculty.	
Goal 2: Strengthen and expand curriculum	Cultivate graduate course development	<ul style="list-style-type: none"> • MSCTE added 3 new advanced graduate certificates which included two new courses (ECTE 607—Instructional Systems Design and Development and ECTE 515 Workforce and Organizational Development • Created a new ECTE 610 Grant Writing & Development
	Explore effective course delivery options	
Goal 3: Recruit and market the graduate programs to diverse populations and locations	Create literature for marketing	<ul style="list-style-type: none"> • Brochure created
	Provide a presence at conferences, graduate recruitment fairs, and in local and greater communities	<ul style="list-style-type: none"> • Attend the MI Career Conference and set up a booth • Dr. Manley and Dr. Ennis present at the MI Career Conference

Figure 6 School of Education Graduate Program Short Term Strategic Plan

Goal	Objective	Activities
Goal 1: Increase uses of evidence-based practice in courses and include opportunities for student research.	Add bibliographies to syllabi.	
	Collaborate with FLITE to improve journal holdings.	
	Facilitate opportunities for student research and presentations.	
Goal 2: Strengthen relationship with Advisory Board.	Identify professionals with vested interest in SOE programs.	
	Hold substantive meetings twice per year for continuous improvement.	
Goal 3: Strengthen partnerships with Charter School Office.	Develop curriculum camp for Hope Academy and Lighthouse Academy.	<ul style="list-style-type: none"> • June 28, 29 and August 22, 2016
	Identify appropriate placements for teacher candidates in FSU Charter Schools	
Goal 4: Recruitment, retention, and recognition.	Create graduate student social	September 21 and November 12, 2016 Meet and Greet with faculty and staff, March 31, 2016
	Teacher Celebration.	March 23, 2016.
	Online Orientation.	Fall, 2015
	Survey current students about modes of delivery.	

Goal Attainment

The plan is reviewed when the College and University establish new plans. The program evaluates its success for students in the PK-12 based on student employment rates and ratings of effectiveness as provided by the MDE. The program has relied on word of mouth to keep the programs going over the past three years and are able to do so because of the recommendation of our students to their colleagues. This is a reflection of the SOE's ability to meet the needs of the students and reflective of program goals. There has been little or no funding available for marketing materials or recruitment efforts. A brochure was designed, and faculty were encouraged to take them to schools when they visited for field-based evaluations. Since many programs are available off-campus, we tried to have brochures available at all off-campus sites but were told that the sites would only place brochures that specifically advertised programs available fully at that site. As we review program goals we will continue to reflect on program strengths and areas for improvement.

As a part of the current student (Appendix B Table 22) and alumni (Appendix C Table 28) survey, respondents were asked to rate the importance of specific courses. Specific core courses are aligned to each SOE Graduate Program Goal. Figure 7 below provides a summary of the results.

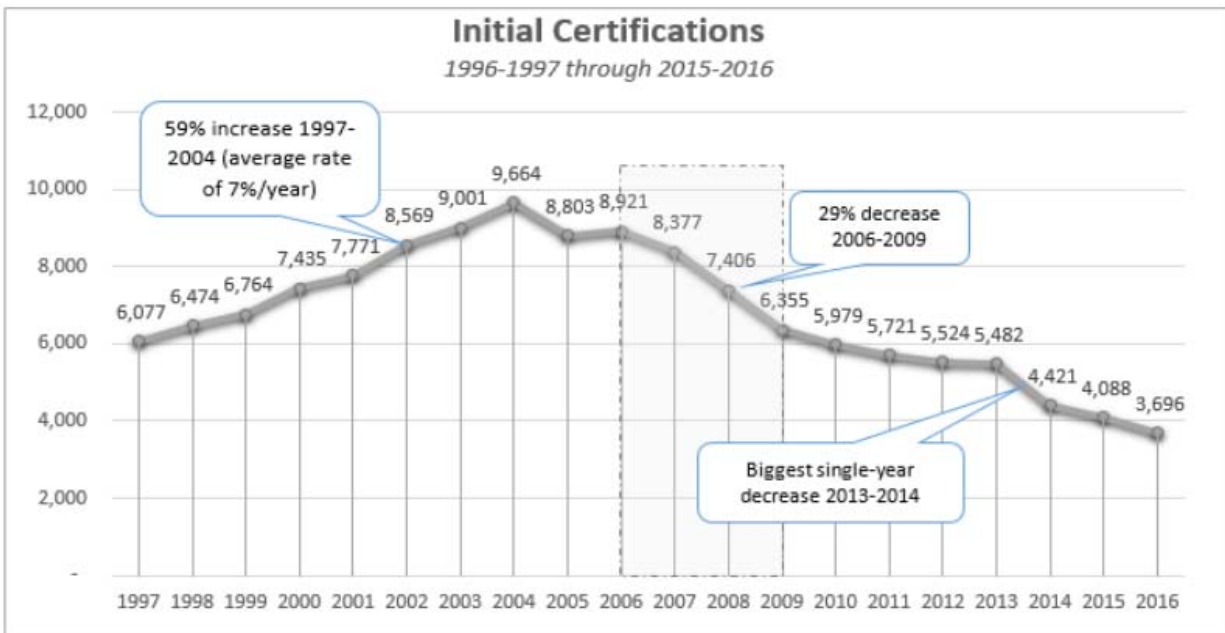
Figure 7 SOE Goals with Percent of Students Rating the courses Aligned to the Goal as Very or Somewhat Important (N=number of students rating the course)

Goal and Courses Aligned to Goal	Current Students	Alumni
Goal 1: Graduates demonstrate competence and application of data driven decision making through scholarly/technical writing, learning analytics, and project design and implementation		
EDUC 663—Principles of Data-Driven Decision Making for Educators	100% (N=2)	100% (N=17)
Goal 2: Graduates demonstrate critical understanding of the social and political influences upon their respective fields		
ECTE 500—Foundation & Organization of CTE	100% (N=2)	100% (N=12)
ECTE 516—Issues in CTE	100% (N=6)	100% (N=14)
Goal 3: Graduates will utilize the latest technology in their respective fields to enhance learning and increase productivity		
EDUC 540—Educational Technology in the Classroom	100% (N=3)	100% (N=15)
Goal 4: Graduates will demonstrate understanding of cultural competency and diverse learner needs in response to the ever-changing global society		
EDUC 508—Instruction of Exceptional Learners	100% (N=3)	100% (N=15)
EDUC 518—Diversity/Classroom & Workplace	100% (N=1)	84.6% (N=13)
EDUC 630—School Law	None reported	90% (N=10)
Goal 5: Graduates will design and evaluate instructional programs using best practices in their respective fields		
ECTE 504—Curriculum development in CTE	100% (N=4)	100% (N=12)
ECTE 607—Instructional Systems Design and Development	100% (N=2)	100% (N=9)
EDUC 620—Advanced Integrated Curriculum Design & Evaluation	0% (N=1)	100% (N=14)
EDLE 520—Curricular Supervision	100% (N=1)	88.9% (N=9)
EDUC 681—Capstone Project	None taken	100% (N=16)

A white paper published by the Michigan Department of Education (September, 2017) on the Trends in Michigan Teacher Certification, provides the following results:

- The number of new certificates issued has declined by 33% since 2012 and by 62% since the peak in 2004. This decline mirrors nationwide decline in certifications and enrollment in teacher preparation programs (Sutcher et. Al, 2016) (See Figure 9)
- The decline in number of new certificates issued/teachers entering the profession is far steeper than the decline in Michigan’s student or teacher populations. The decline in certificates to teach at the secondary level has been sharper than the decline in certificates to teach elementary.
- While Michigan has traditionally produced more new teachers annually than the number of new teachers employed each year, the last three years of data indicate a convergence of these numbers. In two of the last three years, in fact, the number of new assignments has exceeded the number of new certificates issued.
- The number of provisional certificates, issued to candidates entering teaching through traditional educator preparation programs, greatly exceeds the number of initial certificates issued to candidates from alternative or CTE routes.
- Endorsements for hard-to-staff content areas, including bilingual education, career and technical education, early childhood, special education, and STEM, have declined significantly over the last five years, possibly further limiting supply in areas often defined as shortage areas.

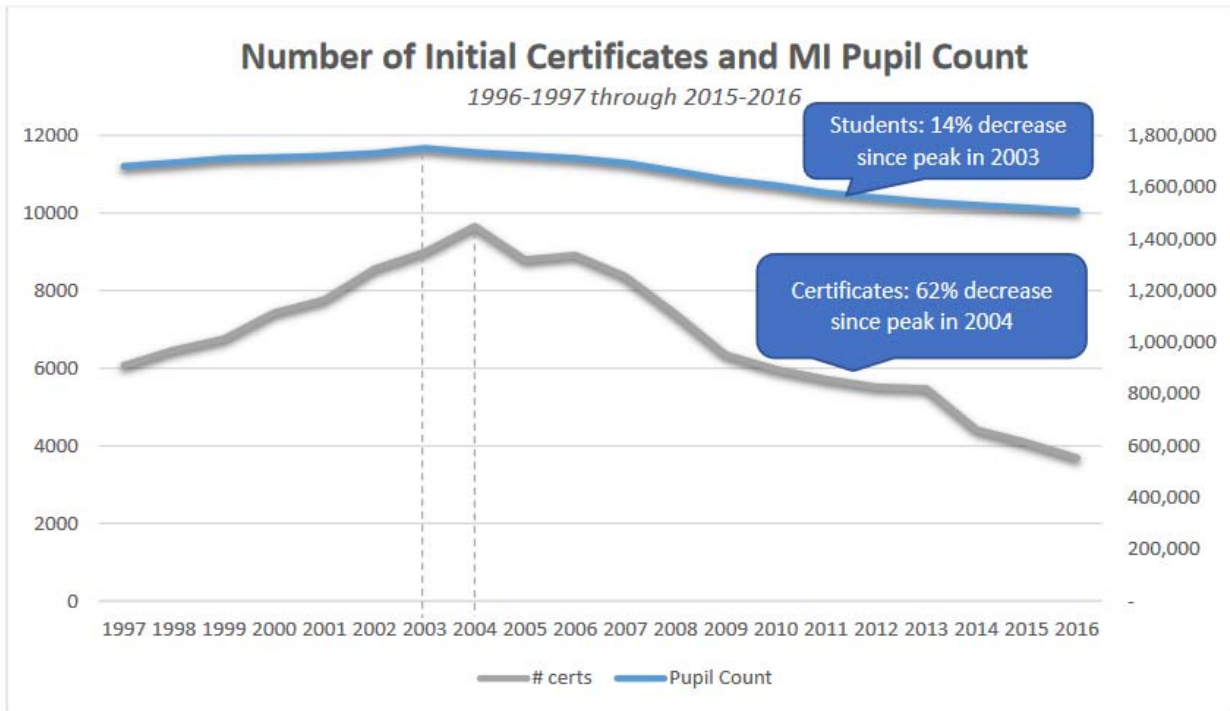
Figure 8 Michigan Department of Education Initial Certifications 1996-2016



Between 1997 and 2004, the number of initial certifications increased from 6,077 to the 20-year peak of 9,664 (59%), representing an average rate of 7% per year. Between 2006 and 2009, the number of initial certifications issued decreased from 8,921 to 6,355 (29%), an average of 9.7% per year. The decrease abated between 2009 and 2013, then declined at a steeper rate again between 2012-2013 and 2015-2016 (from 5,482 to 3,696). Nationwide, between 2009 and 2014, enrollment in teacher preparation programs dropped by 35% (Sutcher, et al, 2016).

(Sutcher, L, Darling-Hammond, L., and Carter-Thomas, D. (2016) *A Coming Crisis in Teaching? Teacher Supply, Demand, and Shortages in the U.S.* Palo Alto, CA: Learning Policy Institute)

Figure 9 Michigan Department of Education Number of Initial Certificates and MI Pupil Count



While the number of initial certificates decreased 62% since its peak, when compared to the number of pupils, a substantially higher rate than the decrease in pupils.

The Interim Occupational Certificates are the initial certificates for Career & Technical Education (CTE) teachers. The Interim Teaching Certificates are specifically for candidates who enter teaching through an alternative route. After three years, candidates may progress to provisional (standard) certificates. Provisional teaching certificates are issued to candidates who complete traditional teacher preparation programs.

Figure 10 Michigan’s Provisional Interim Occupational Certificates by Year

School Year	Interim Occupational Certificate	Interim Teaching Certificate	Provisional Teaching Certificate	Total
2011-2012	97	112	5,315	5,524
2012-2013	111	264	5,107	5,482
2013-2014	72	108	4,241	4,421
2014-2015	53	73	3,962	4,088
2015-2016	55	46	3,595	3,696
% Change	-43%	-59%	-32%	-33%

Curriculum

Within the Career & Technical Education graduate level domain, the School of Education offers three master's degree concentration and Four Advanced Graduate Certificates as shown in Figure 11 below.

Figure 11 Career & Technical Education Graduate-Level Domain Degrees and Certificates (with links to checksheets)

Degree	Click on Name to Access Checksheet	FSU Code	Credits
Master of Science in Career and Technical Education	Instructor Concentration	CTIN	32-33
	Post-Secondary Administration Concentration	CTPS	34
	Training & Development Concentration	CTTD	36
Advanced Graduate Certificate	Total Quality Management for Education	ASTQ	12
	CTE Administration	CTEA	9
	CTE Fundamentals	CTFN	9
	Workforce Development	CTWF	9

Figure 12 List of Graduate Courses in Master's Degrees and Advanced Graduate Certificates with Semester Offered

R=Required; R Opt=Optional Required Course; E=Elective

			CR	Core	Master's Degrees			Advanced Graduate Certificates				Semester Offered		
					CTIN	CTTD	CTPS	ASTQ	CTEA	CTFN	CTWF	Fall	Spring	Summer
ECTE	500	Foundation & Organization of CTE	3	Core	R Opt		R Opt			R		x		
ECTE	504	Curriculum Design in Career & Technical Education	3	Core	R Opt	R Opt	R Opt			R				x
ECTE	505	Training in Business & Industry	3			R					R	Odd years		
ECTE	509	Occupational Analysis & Needs Assessment	3			R					R	Odd years		
ECTE	510	Evaluation in Career & Technical Education	3	Core	R	R	R			R		x		
ECTE	515	Workforce and Organizational Development				R					R			x
ECTE	516	Issues in Career & Technical Education	3	Core	R Opt		R Opt			R			x	
ECTE	591	Internship in Career & Technical Education	2		R	E	E					x	x	x
ECTE	595	Content/Instructional Workshops & Seminars in Career & Technical Education	1-2		E							x	x	x
ECTE	601	Administration of CTE Programs	3				E		R					
ECTE	607	Instructional Systems Design and Development	3	Core	R Opt	R				R			x	
ECTE	610	Grant Writing & Development	3		E	E	E							

			CR	Core	Master's Degrees			Advanced Graduate Certificates				Semester Offered		
					CTIN	CTTD	CTPS	ASTQ	CTEA	CTFN	CTWF	Fall	Spring	Summer
ECTE	650	Implementing Total Quality Management in Education	3		E	E	R	R				Even years		
ECTE	655	Quality Improvement Practices	3		E			R						
ECTE	660	Quality Management in Education	3		E			R						
ECTE	665	Quality Metrics and Data Management	3		E			R						
ECTE	694	Graduate Topics in Career & Technical Education	3		E							x	x	x
ECTE	697	Special Studies in Career & Technical Education	3		E	E	E					x	x	x
EDLE	500	Theories of Leadership	3		E	E	E		R			x		
EDLE	520	Curricular Supervision	3		E		R						x	
EDLE	525	Personnel Administration & Evaluation	3				R						x	
EDLE	530	School Business Management	3				E						x	
EDUC	508	Instruction of Exceptional Learners	3	Core	R							x		x
EDUC	518	Diversity in the Classroom & Workplace	3			R	R							x
EDUC	540	Educational Technology in the Classroom	3		E	E						x		
EDUC	560	Advanced Applications of Educational Technology in the Classroom	3			E								

				Core	Master's Degrees			Advanced Graduate Certificates				Semester Offered		
			CR		CTIN	CTTD	CTPS	ASTQ	CTEA	CTFN	CTWF	Fall	Spring	Summer
EDUC	570	Teaching & Learning Theories in the Classroom	3		E	R								x
EDUC	630	School Law	3		E		R		R					x
EDUC	663	Principles of Data-Driven Decision Making for Educators	4	Core	R	R	R					x	x	
EDUC	681	Capstone- Project or Thesis	3	Core	R	R	R							
EDUC	620	Advanced Integrated Curriculum Design & Evaluation	3	Core	R Opt	R Opt	R Opt						x	

Quality of the courses is evaluated from the SAI evaluations. Individual faculty take these evaluations seriously and adjust courses as feedback is received. The courses are typically only taught by one faculty; however, when another faculty is scheduled to teach a course, the original faculty member shares all resources (online and printed materials) and materials. Currency is evaluated based on a strong relationship with

- the Office of Career & Technical Education at the MDE with updates on legislation and state policies
- the SOE CAEP accreditation process that requires constant data collection and review
- a strong relationship with industry through consulting by program faculty
- attending national and state conferences including a strong presence at the Michigan Career Conference (annual statewide CTE conference)

General education requirements and co-curricular experiences are not applicable for our graduate programs; however, the program does require students to have general skills such as, work effectively in a team; use digital devices, media, and online technology; read and interpret educational and technical information; demonstrate graduate-level writing skills; and speak publicly. Our classes require graduate students to integrate these skills into their assignments. Students with weak writing skills are often referred to the Writing Center to improve their basic skills; students with weak technology skills are referred to online resources or technical experts; and students with weak research skills are referred to the FLITE library for assistance.

In addition, each of the three curriculum options requires or recommends an internship that serves multiple purposes and could include service-learning. The major purpose of the internship is to proactively review and update the technical skills, knowledge and credentials of students who are teaching in their content field; however, in other options, students seek opportunities to donate their time

- to learn new skills or be exposed to different industry segments in their career pathway
- to engage in innovative learning experiences and engage with business, industry, and community organizations
- to earn or update industry credentials
- to experience new equipment and processes in their industry
- to build relationships with local business and industry organizations
- to identify and solve problems in their workplace; implement new projects and programs, develop new content and delivery methods in their CTE programs,

Program requirements are published in the graduate handbook which all students have access to and on the SOE website. There currently are no curricular changes under consideration for these programs.

Course syllabi will be made available as requested. A space has been provided in Appendix D for the course syllabi, if they are needed.

Communication with newly admitted students is completed at the start of their graduate program through the dissemination of the check sheets and a one-to-one advising session. There is also an online orientation for students to complete that includes information about registering for classes, financial aid information, applications required for internships and capstone courses, and advising.

Assessment of Student Learning

Positive program improvements made over the last three years as a result of measuring program-level student learning outcomes are evaluated to be useful and include the current curriculum clean-up and the enhanced relationship with lab school. Analysis of program-level student learning outcomes has informed the program's short and long-term strategic plans by aligning to CAEP standards. Assistance from the University would be valuable in the establishment, monitoring, and reporting of program-level student learning outcomes by providing more tenure-track faculty.

Program level student learning outcomes

SCHOOL OF EDUCATION GRADUATE PROGRAM GOALS/OUTCOMES

1. Graduates demonstrate competence and application of data driven decision making through scholarly/technical writing, learning analytics, and project design and implementation (EDUC 663).
2. Graduates demonstrate critical understanding of the social and political influences upon their respective fields (ECTE 500, EDUC/ECTE 516).
3. Graduates will utilize the latest technology in their respective fields to enhance learning and increase productivity (EDUC 540).
4. Graduates will demonstrate understanding of cultural competency and diverse learner needs in response to the ever-changing global society (ESPN, EDUC 508, EDUC 518, and EDUC 630).
5. Graduates will design and evaluate instructional programs using best practices in their respective fields (EDUC/ECTE 504, EDUC 620, EDLE 520, ECTE 607, EDUC 681)

Master of Science in Career and Technical Education Goals/Outcomes

1. Students in the MSCTE will demonstrate ability to design a project and integrate scholarship in their specific area of inquiry within CTE or their work-based field (SOE Graduate Program Outcomes 1,2,5).
2. Students in the MSCTE will use technology to support decision-making, communication, training/instruction, and learning (SOE Graduate Program Outcome 3).
3. Students in the MSCTE will utilize data to make decisions on project need, design, implementation and evaluation for education and training (SOE Graduate Program Outcomes 1 and 5).

Students graduating from the MSCTE must complete a culminating or capstone course (EDUC 681) in the form of a thesis or a capstone project at the end of their graduate studies. The project or thesis is design when they take the EDUC 663—Principles of Data-Driven Decision-Making Course. During the EDUC 663 course, the final project is to complete Chapters 1, 2, and 3 of a proposal for their capstone. Students then enroll in EDUC 681, to complete the research thesis or project. Once completed, the students present their capstone to a three-person graduate committee. The three-person graduate committee consists of a capstone supervisor and two other faculty members or professional members. Two of the three members must be from the School of Education faculty—one person may be external to the faculty but does require holding a master's degree.

Students who choose to complete a traditional thesis/research study or action research project that is a limited scope addressing an authentic problem in a local school district or organization. Students are required, when appropriate, to go through the IRB process. The MSCTE has only had a few students elect the thesis option for their capstone as most elect to complete a capstone project.

Students who select the capstone project are required to identify the need for the project, complete a literature review, discuss methodology for completing project (completing an IRB if necessary), discuss their project results and then develop a conclusion and limitation section. Students have the option to

1. **Quantitative Research**--Collect and analyze data using a questionnaire or survey, pre-post testing, observations, interviews or focus groups on students, parents, employees, etc.
2. **Qualitative Research**--Research an area or topic of interest; such as, conduct a case study, trace the history of an institution or concept, or analyze a policy or regulation.
3. **Action Research**—in their own classroom, analyze data on the implementation of
 - a new teaching method (e.g., cooperative learning, RtI, mastery learning, etc.)
 - a new classroom management system,
 - a new assessment device,
 - a new piece of equipment or technical enhancement,
 - a new strategy to involve partners (e.g., parents, industry, peers, etc.) or
 - new instructional materials, books, online, web content

Student projects are usually related to their work and can include things such as writing grants, making curricular changes at their school, developing professional development opportunities, etc. Examples of graduate level projects include:

- Creative Efforts—build or create something (book, sculpture, painting, etc.)
- Integration, design or use technology projects (web, online learning, etc.)
- New Curriculum Development or Revision of existing curriculum
- Assessment Development and Analysis for program or school
- Participate or lead in an accreditation, re-accreditation or certification process for a program or school
- Design and integrate online learning experiences/curriculum
- Collaboration with partners outside of your organization
- Design and deliver a professional development in an area of expertise
- Write and submit a grant proposal
- Acquire a personnel industry certification in your content area (e.g, Microsoft, Cisco, Comtia, Health Related Content, Technical Content areas, etc., American Welding Society, etc.
- Service Learning Project

At this time there is not a formal process of establishing, monitoring and updating program-level student learning outcomes, however, with the reestablishment of the Graduate Committee in 2016 and the upcoming CAEP accreditation, this will be formalized. CAEP accreditation requires that the SOE use student performance data in its report. As a result the SOE will be looking at graduate student performance in P-12 classrooms as rated by the MDE as highly effective, effective, minimally effective or ineffective.

If course specific requirements are changed, all stakeholders, specifically students, are informed. Depending on the change students may have the option to complete the program that they entered the University under or switch to the new changes. These changes are communicated through advisors, course instructors, MyFSU, and email blasts. For changes in the certification requirement, if the MDE requires the change, students may not be given an option to continue in their current program. Students are notified immediately of any program changes.

At this time TracDat is just beginning to be used to collect data on the SOE programs. It was not until this past academic year that faculty were given access to the system. Training has not been given to faculty on its use. Dr. Manley has been provided release time to serve as assessment coordinator who understands the requirements of the MDE as well as the University. This has been very valuable in organizing and reporting program level learning outcomes. This will be a continued need as programs are in the process of being accredited by The Council for the Accreditation of Educator Preparation (CAEP). Program outcomes are measured based on the success of the students in completing their capstone project and presentation. Students' capstone projects are reviewed by a committee comprised of faculty and an outside member, such as a school administrator, for a total of three members.

Program Profile

Beginning September 1, 2013, the Michigan Department of Education adopted major changes in teacher certification in Michigan. These changes impacted all areas and levels of education throughout Michigan and significantly impacted how teachers renew and/or upgrade their teaching certificates. The biggest change is that teachers no longer need to pursue a master's degree (or obtain 18 semester credit hours in an approved program of study) to be eligible for a professional certificate.

The current law for renewing a provisional certificate is (<http://www.chsd.us/staffresource/Teacher%20Certification%20In%20Michigan.pdf> and <https://mmeamichigan.org/wp-content/uploads/sites/2/2015/09/Michigan-Teacher-Certification-Changes.pdf>):

Teachers can obtain up to three (3) renewals of their provisional certificate and each renewal is valid for up to three (3) years. To obtain their first OR second renewal, teachers must complete ONE of the following requirements:

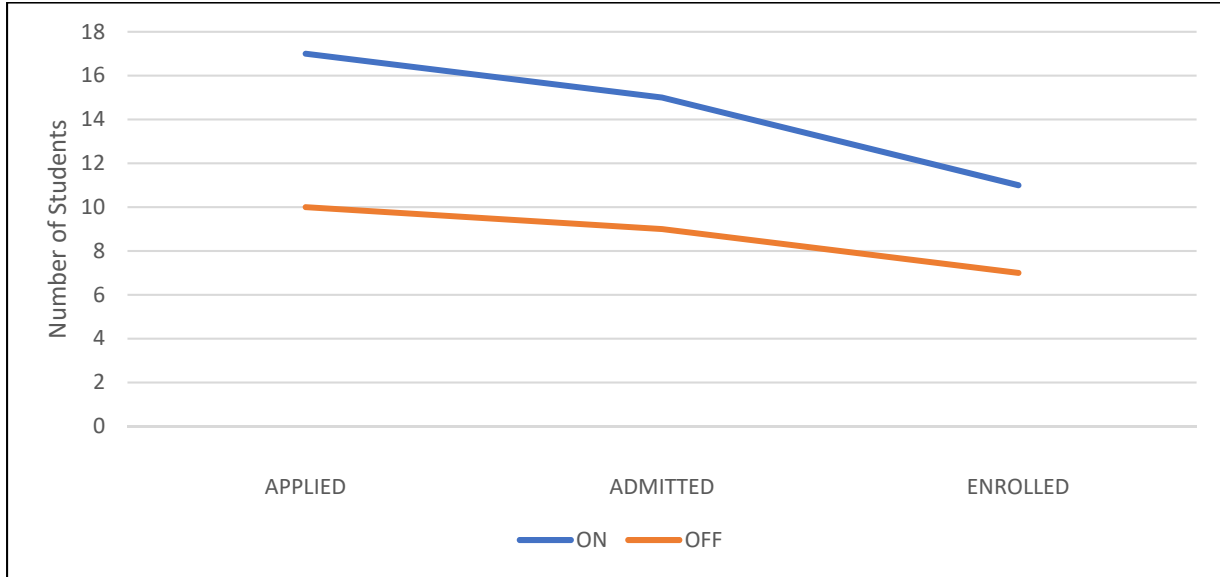
1. Six (6) semester hours in a planned course of study at an approved educator preparation institution
OR
2. 180 State Continuing Education Clock Hours (SCECHs) appropriate to the grade level and/or content endorsement of your certificate
OR
3. A combination of semester hours and SCECHs (30 SCECHs = 1 semester credit hour)
OR
4. Completion of an approved master's or higher degree in areas appropriate to K-12 teaching at an approved educator preparation institution

**Options 1, 2 and 3 (above) must be completed AFTER the issuance of your previous certificate/renewal. Option 4 (above) can be completed at any time.

Apps, Admits, and Enrolled

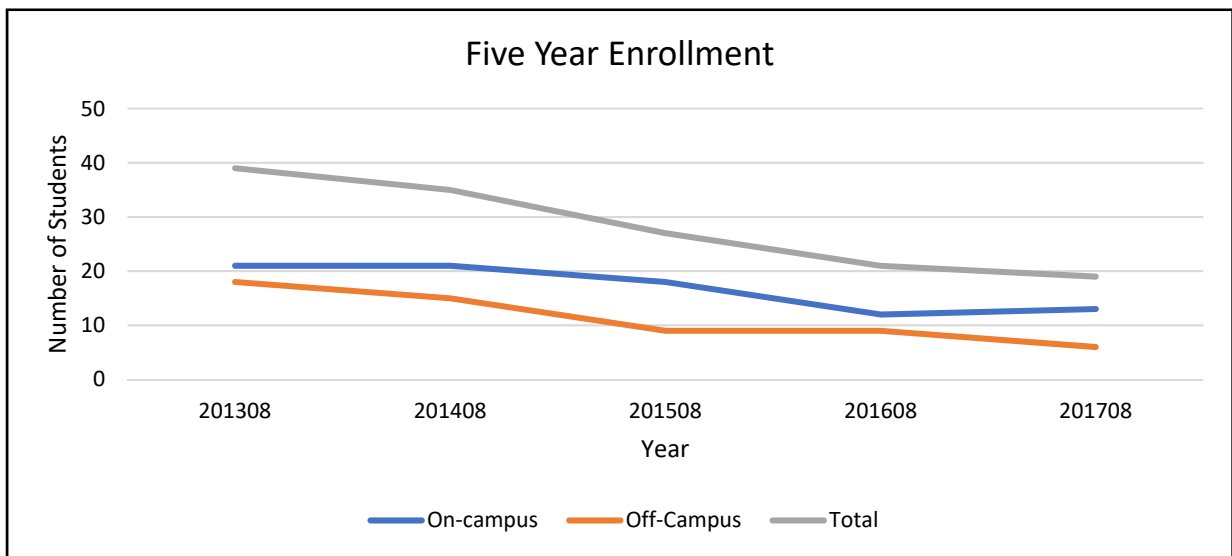
The following graph shows the number of students applied, admitted and enrolled on and off campus.

Figure 13 MSCTE Students Applied, Admitted and Enrolled On and Off Campus



Enrollments have remained low and decreased overall. We were unable to identify any students during the 2015 year. Faculty have identified that one of the reasons for the decrease is MDE’s change in the requirement for graduate coursework.

According to the Fact Book, the five-year enrollments for the five options are shown in Figure 14.
Figure 14 Five-Year Enrollment On and Off Campus



During Fall, 2017, Ferris Factbook showed 91 graduate students enrolled in the COEHS. Of the 91 students, 19 were enrolled in one of the MSCTE options. This represents a significant decline from previous years as the enrollment in 2013 was 39 students. A review of Western Michigan University's Fact Book shows graduate enrollment in their Career & Technical Education master's programs in Fall, 2017 to be 21 students. The decline can be attributed to changes made at the Michigan Department of Education which no longer requires graduate coursework to become professional certified.

Figure 15 Five Year Enrollment On and Off Campus

TERM	MAJR DESC	MAJOR	On-Campus			Off-Campus		
			APPLIED	ADMITTED	ENROLLED	APPLIED	ADMITTED	ENROLLED
201408	Total Quality Mgmt in Educ	ASTQ				1	1	1
201408	Career and Tech Ed Instructor	CTIN	2	2	1			
201608		CTIN	5	3	1	2	2	1
201708		CTIN	2	2	1			
201408	Career Tech Ed - Post Sec Admn	CTPS	2	2	2	1	1	1
201608		CTPS				1	1	1
201708		CTPS	4	4	4	2	2	2
201408	Career Tech Ed - Train Dev	CTTD	1	1	1	3	2	1
201708		CTTD	1	1	1			

However, when analyzing the on and off-campus enrollments by semester, there is an increase in applied, admitted and enrolled for the on-campus students in 2017.

Figure 16 Applied, Admitted and Enrolled for MSCTE

	On-Campus			Off-Campus		
	APPLIED	ADMITTED	ENROLLED	APPLIED	ADMITTED	ENROLLED
201408	5	5	4	4	3	2
201608	5	3	1	3	3	2
201708	7	7	6	2	2	2

Regarding Applied Data, every application is reviewed by faculty to ensure admitted students meet minimum requirements of the university graduate school and the graduate enrollment requirements of the School of Education graduate programs. In the event that an application file is not complete, the admission of that student may be delayed until the file is complete. Therefore, some years it appears that more students were admitted than applied, when in fact this is due to a delay in admission process out of the department's control.

The enrollment data is more difficult to analyze due to the fact that it has not been consistently measured over the last 5 year period. In addition, student enrollment is sometimes delayed for various reasons. Enrollment data for 2013 and 2015 is not available.

Enrollment - Headcounts

Off-campus enrollment is declining while on-campus enrollment is starting to increase. This is likely because of the low enrollments and difficulty in sufficient numbers of maintain the off-campus presence. The enrollment decline directly follows the changes in Michigan state policy on graduate coursework. The state no longer requires graduate level courses to maintain professional certification. Teachers are able to maintain their certification with a variety of options, reducing the interest in pursuing graduate level coursework/degrees

<https://ferris.edu/admissions/testing/resources/apr/docs2017/2017APRHEADCOUNT.pdf>

Figure 17 Five-Year Overall Headcount Enrollment by Semester

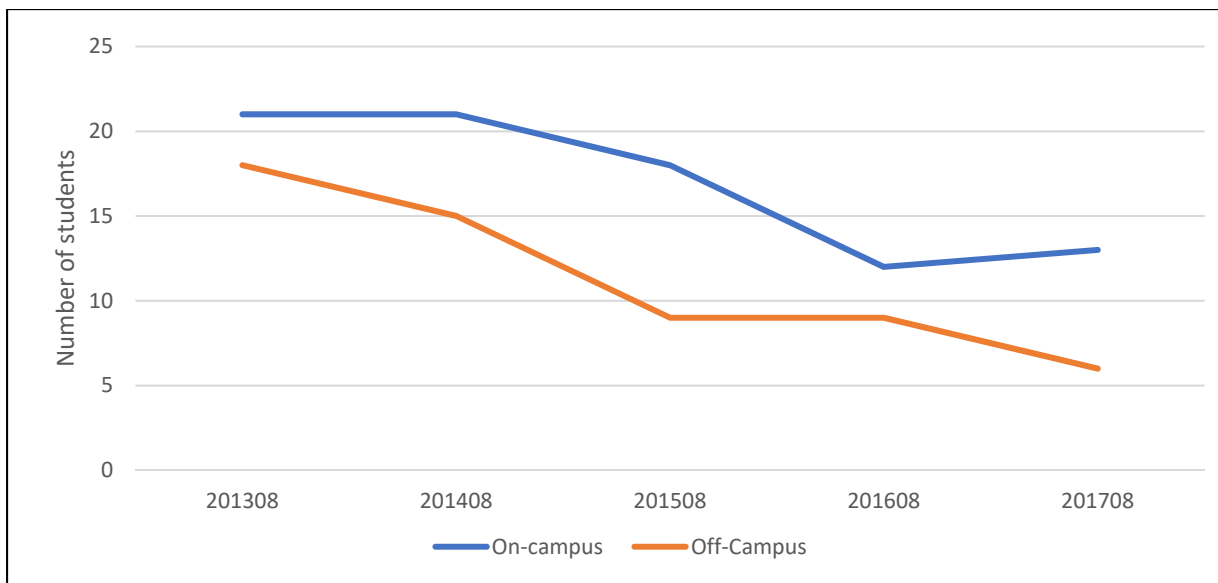


Figure 18 Five Year Headcount Enrollment by Program On and Off Campus

ASTQ			
	On-campus	Off-Campus	Total
201308	0	0	0
201408	0	1	0
201508	0	0	0
201608	0	0	0
201708	0	0	0
CTAD			
	On-campus	Off-Campus	Total
201308	1	2	3
201408	1	0	1
201508	3	0	3
201608	0	0	0
201708	0	0	0
CTIN			
	On-campus	Off-Campus	Total
201308	8	12	20
201408	8	9	17
201508	6	8	14
201608	7	6	13
201708	5	3	8
CTPS			
	On-campus	Off-Campus	Total
201308	6	1	7
201408	7	3	10
201508	7	1	8
201608	5	2	7
201708	6	3	9
CTTD			
	On-campus	Off-Campus	Total
201308	6	3	9
201408	5	2	7
201508	2	0	2
201608	0	1	1
201708	2	0	2
TOTAL			
	On-campus	Off-Campus	Total
201308	21	18	39
201408	21	15	35
201508	18	9	27
201608	12	9	21
201708	13	6	19

It is important to note that many of the classes in the Master of Science in Career & Technical Education are shared with the Master of Education program. While we offer all options at all campuses, we cannot always accommodate students due to the low number of faculty available to teach the courses.

Student Credit Hour Trends

The Student Credit Hour trends for the MSCTE are represented in the following Figure 19.

Figure 19 MSCTE By Option and ASTQ Student Credit Hours

CTAD			
	On-Campus	Off-Campus	Total
201308	6	9	15
201408	6	0	6
201508	19		19
201608	0	0	0
201708	0	0	0
CTIN			
201308	39	49	88
201408	41	38	79
201508	27	37	64
201608	27	21	48
201708	17	7	24
CTPS			
201308	32	3	35
201408	36	9	45
201508	29	5	34
201608	29	12	41
201708	31	18	49
CTTD			
201308	36	15	51
201408	26	9	35
201508	13	0	13
201608	0	7	7
201708	15	0	15
ASTQ			
201308			
201408	0	6	6
201508			
201608			
201708			
Total			
201308	113	76	189
201408	109	62	171
201508	88	42	130
201608	56	40	96
201708	63	25	88

It was in the 2012-2013 year that the reporting changed for these categories and therefore, the numbers do not seem consistent. Again, decreased enrollment can be attributed to MDE's policy changes regarding professional certification. Teachers no longer need graduate coursework to move from provisional to professional certification.

Productivity

While the graduate programs are not disaggregated, the information for the ECTE courses are shown in the following Figure 20:

Figure 20 Productivity by Semester and Year

	Summer	Fall	Spring	F+Sp
2012-13	45.00	97.00	138.00	235.00
2013-14	37.00	128.00	111.00	239.00
2014-15	57.00	99.00	110.00	209.00
2015-16	19.00	139.99	114.00	253.00
2016-17	61.00	105.00	82.00	187.00

The productivity in terms of student credit hours to FTEF are fairly consistent across the 5 years with the exception of a current dip.

Enrollment – Residency

The MSCTE program has only had a few non-residents over the last five years as reported in the available documents. The average age of the students 34 to 41 years of age and average GPA is over 3.5

Figure 21 Enrollment Residency for MSCTE by Semester

https://ferris.edu/admissions/testing/resources/apr/docs2017/APR13-17EnrolResAgeACT.pdf										
	Resident	Midwest Compact	Non-Resident	Avg. Age	Avg GPA	Min GPA	Max GPA	Avg ACT	Min ACT	Max ACT
ASTQ										
201408	1			36						
CTAD										
201308	3			35	3.48	2.84	4.00			
201408	1			28						
201508	3			33	3.72	3.61	3.8			
CTIN										
201308	20			40	3.57	2.06	4.00			
201408	17			37	3.63	2.33	4.00	24.4	20	29
201508	13		1	40	3.67	2.96	4.00	23.5	19	29
201608	12		1	41	3.73	2.8	4.00	21.8	19	25
201708	7		1	39	3.36	2.33	3.85	24	20	30
CTPS										
201308	7			36	3.50	2.85	3.9	23.33	20	29
201408	10			38	3.34	1.00	4.00	20.33	20	21
201508	8			35	3.48	1.94	4.00	16.33	14	20
201608	7			38	3.61	2.46	4.00	19.00	15	21
201708	9			40	3.75	3.00	4.00	19.00	15	17
CTTD										
201308	9			35	3.51	2	3.96	20.33	18	26
201408	7			34	3.52	2.96	4.00	20.2	15	26
201508	1		1	41						
201608	1		0	40						
201708	1		1	43						
Total										
201308	39	0	0	36.50	3.52	2.44	3.97	21.83	19.00	27.50
201408	36	0	0	34.60	3.50	2.10	4.00	21.64	18.33	25.33
201508	25	0	2	37.25	3.62	2.84	3.93	19.92	16.50	24.50
201608	20	0	1	39.67	3.67	2.63	4.00	20.40	17.00	23.00
201708	17	0	2	40.67	3.56	2.67	3.93	21.50	17.50	23.50

Enrollment – Gender and Ethnicity

The gender and ethnicity of the graduate students has not changed significantly over the last five years

- 54% of the students over the last five years are female
- 80% are White; 6% Black and remaining are Hispanic, Asian, Multi and foreign
- 95% are full time

Figure 22 Five-Year Enrollment by Gender and Ethnicity by Semester

	Enrolled	Male	Female	Unknow	Black	Hispanic	Native	Asian	White	Hawaiian	Multi	Foreign	Full	Part
ASTQ														
201408			1						1					1
CTAD														
201308	3		3		1				2					3
201408	1	1							1					1
201508	3	3				2			1					3
CTIN														
201308	20	11	9	1	1			1	15		2		1	19
201408	17	5	12		1				14		2			17
201508	14	5	9						13		1			14
201608	13	8	5						12		1			13
201708	8	7	1			1			7					8
CTPS														
201308	7	1	6						7					7
201408	10	3	7						9		1		1	9
201508	8	5	3	1	1	0			5		1		0	8
201608	7	5	2	1	0	0			5		1		0	7
201708	9	3	6	0	2	1			6		0		1	8
CTTD														
201308	9	4	5		1				8				2	7
201408	7	2	5		1				6					7
201508	2	1	1						1			1	1	1
201608	1	0	1						0			0	0	1
201708	2	1	1						1			1	1	1
Total														
201308	39	16	23	1	3			1	32		2		3	36
201408	36	11	25		2				31		3		1	35
201508	27	14	13	1	1	2			20		2	1	1	26
201608	21	13	8	1					17		2			21
201708	19	11	8		2	2			14		0	1	2	17

Program Graduates

<https://ferris.edu/admissions/testing/resources/apr/docs2017/2017APRGrad.pdf>

Figure 23 MSCTE and ASTQ Program Graduates

Overall 69 students have shown to graduate from the programs

Academic Year	On-Campus	Off-Campus	Total
ASTQ			
2012-2013	1	0	1
2013-2014	2	0	2
2014-2015	0	1	1
CTAD			
2012-2013	0	1	1
2013-2014	0	1	1
2014-2015			
2015-2016	1	0	1
2016-2017	1	0	1
CTIN			
2012-2013	7	4	11
2013-2014	5	5	10
2014-2015	6	2	8
2015-2016	4	1	5
2016-2017	3	3	6
CTPS			
2012-2013			
2013-2014	2	0	2
2014-2015	1	1	2
2015-2016	2	0	2
2016-2017	1	0	1
CTTD			
2012-2013	1	1	2
2013-2014	4	1	5
2014-2015	2	2	4
2015-2016	1	1	2
2016-2017	1	0	1
Total			
2012-2013	9	6	15
2013-2014	13	7	20
2014-2015	9	6	15
2015-2016	8	2	10
2016-2017	6	3	9
Overall	45	24	69

According to the FSU Factbook, these are the number of graduates for the program

Figure 24 Number of Graduates (FSU Factbook 2017-18) by Total and Program

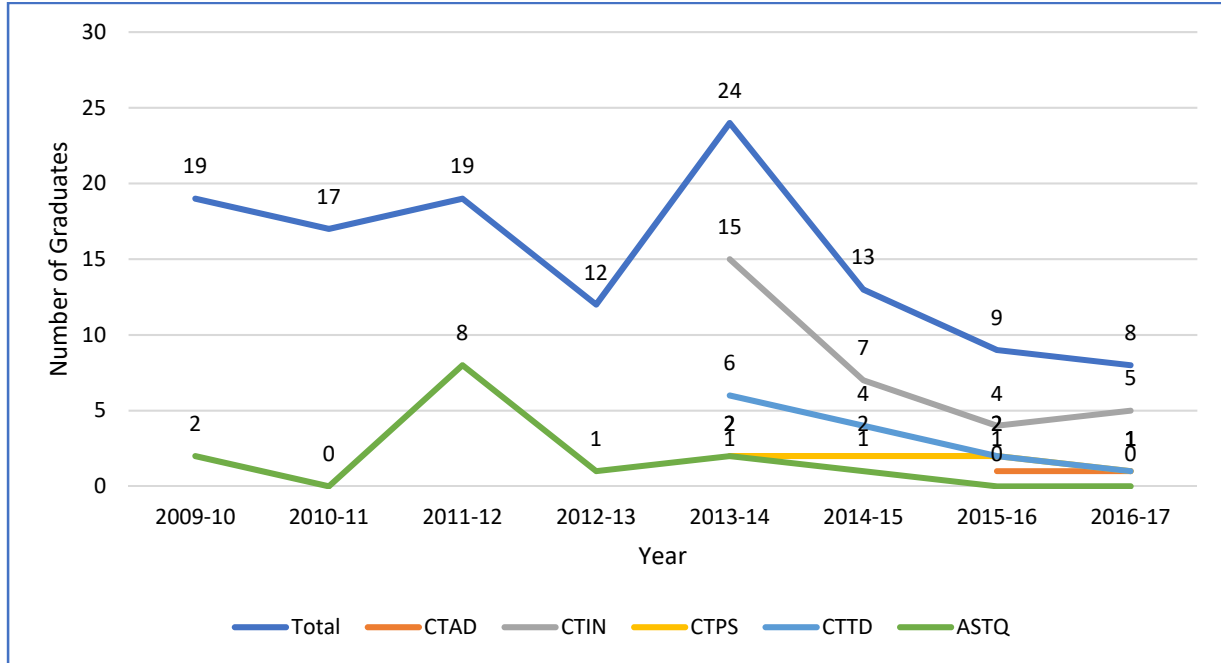


Figure 25 Number of Graduates by Year Aggregated by Total and Program

(Prior to 2012-13, Factbook did not break down by Program area)
Data from FSU Factbook 2017-18

Year	MSCTE total	Career & Technical Education-Admin (CTAD)	Career & Technical Education-Instructor (CTIN)	Career & Technical Education--Post Sec Admin (CTPS)	Career & Technical Education--Training & Development (CTTD)	Advanced Graduate Certificate in TQM for Education
2005-06	29					
2006-07	34					
2007-08	23					
2008-09	20					
2009-10	19					2
2010-11	17					0
2011-12	19					8
2012-13	12					1
2013-14	24	1	15	2	6	2
2014-15	13		7	2	4	1
2015-16	9	1	4	2	2	0
2016-17	8	1	5	1	1	0
	227	3	31	7	13	14

Our own records show 35 graduates since 2003 in the TQM certificate as shown in the following table

Figure 26 Graduates in Advanced Graduate Certificate in Total Quality Management in Education

		Advanced Graduate Certificate in Total Quality Management in Education Graduates	Year Graduated
1		Merritt, Nicole Anne	2018
2		Riggs, Jennifer	2014
3		D'Avignon, Patricia L.	2013
4		Eichenberg, Shirley	2013
5		Braun, Tara L.	2012
6		Glentz, Tracy L.	2012
7		MacEachron, Sheila A.	2012
8	**	Martel, Michael A.	2012
9		Root, Jennifer J.	2012
10		Braun, Tara L.	2012
11		Weemaes, Michelle E.	2012
12		Carson, Michael A.	2009
13		Coglan, James P.	2009
14		Harper, Therese E.	2009
15	**	Koepf, Tina M.	2009
16		Richardson, Michelle	2009
17		Davis, Natalie K.	2008
18		Alger, David J.	2007
19	**	Flowers, Kenneth	2007
20		Kuczero, Thomas R.	2007
21		Vaid, Ibrahim	2007
22		Bracey, LaShonda Y.	2006
23	**	Kain, Karen	2005
24		Kolanowski, Ed	2005
25		Sherman, James Lewis	2005
26		Whiteside, John	2005
27		Clouse, Gayle E	2004
28		Miller, Dana L	2004
29		Anderson-Williams, Helen	2003
30		Dorsey, Shawnice A.	2003
31	**	Gaunt, David	2003
32	*	Huff, Jimmie Ray	2003
33	*	Kennedy, Eddie	2003
34		Tipton, LuJuanna S.	2003
35	*	Pohja, Karen	2003

Graduate Average GPA

Although the data is incomplete, the average GPA 3.76, with the average minimum 3.18 and average maximum of 3.99

Figure 27 Average GPA with Average Minimum and Maximum

https://ferris.edu/admissions/testing/resources/apr/docs2017/2017GPAAVG.pdf			
	Average GPA	Min GPA	Max GPA
CTAD			
2012-2013	0.00	0.00	0.00
2013-2014	0.00	0.00	0.00
2014-2015	0.00	0.00	0.00
2015-2016	0.00	0.00	0.00
2016-2017	0.00	0.00	0.00
CTPS			
2013-2014	0.00	0.00	0.00
2014-2015	0.00	0.00	0.00
2015-2016	0.00	0.00	0.00
2016-2017	0.00	0.00	0.00
CTTD			
2012-2013	0.00	0.00	0.00
2013-2014	3.74	3.04	4.00
2014-2015	3.92	3.86	4.00
2015-2016	0.00	0.00	0.00
2016-2017	0.00	0.00	0.00
CTIN			
2012-2013	3.71	3.12	4.00
2013-2014	3.80	3.18	4.00
2014-2015	3.68	2.88	4.00
2015-2016	3.84	3.68	3.96
2016-2017	3.60	2.51	4.00

Graduate Average ACT

Very little data is available for this category. The average ACT is 19 and the average minimum is 16.7 and average maximum is 24.3

Figure 28 Average ACT with Average Minimum and Maximum

https://ferris.edu/admissions/testing/resources/apr/docs2017/2017APRACT.pdf			
	Average ACT	Min. ACT	Max ACT
CTTD			
2013-2014	19	18	22
2014-2015			
CTAD			
2016-2017	0	0	0
CTIN			
2012-2013	17	13	27
2013-2014	0	0	0
2015-2016	0	0	0
2016-2017	21	19	24
Overall Average	19	16.7	24.3

State and National Examinations

Graduates of the MSCTE do not take state and national examination.

Program Value beyond Productivity and Enrollment Numbers

The MSCTE program offers value beyond the productivity and enrollment numbers in a variety of ways including in the area of professional development and advanced degrees.

Professional Development

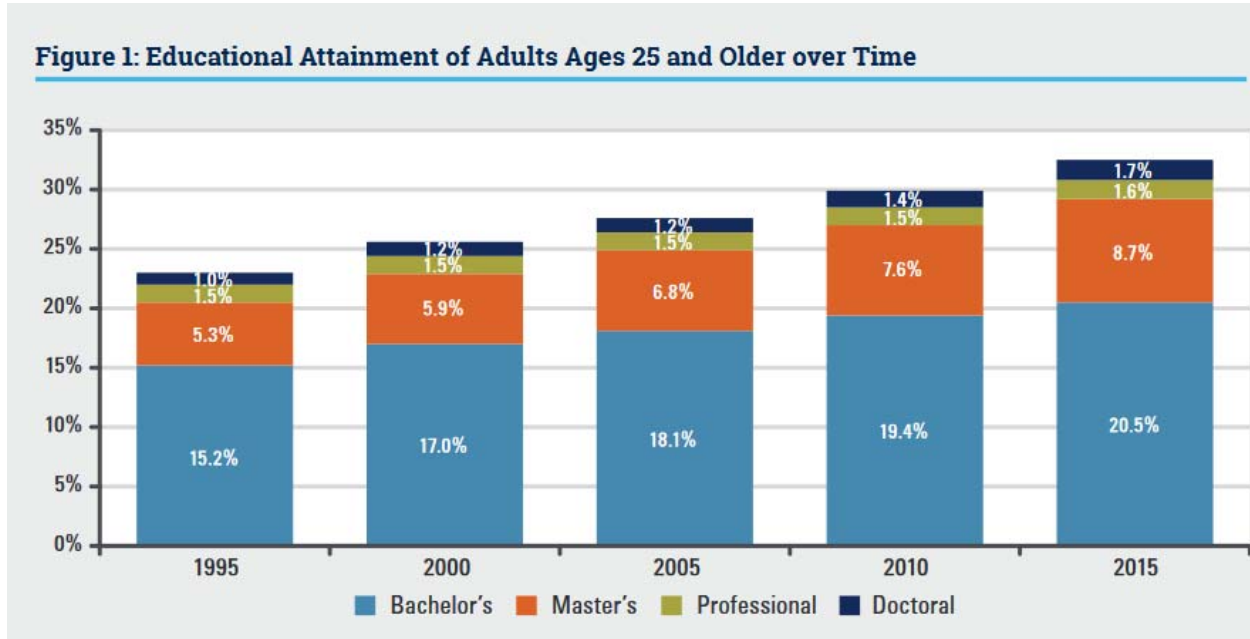
There are several Ferris faculty members (specifically in the College of Engineering Technology) who have earned the MSCTE degree as a condition of their employment. Many of these individuals have extensive work experience in the field and find that the degree provides them with the knowledge they need to improve their teaching skills.

The program also enables secondary and postsecondary educators to advance in their school district salary schedules and become educational leaders either as administrators, curriculum directors, or department heads.

Advanced Degrees

In 2015 the U.S. Census Bureau reported that approximately 1.7% of the population holds Doctoral degrees.

Figure 29 U.S. Census Bureau Educational Attainment of Adults Age 25 and Older



Source: U.S. Census Bureau, Current Population Survey, 2015 Annual Social and Economic Supplement and earlier years, <http://www.census.gov/hhes/socdemo/education/data/cps/2015/tables.html>.

Currently there are 30 MSCTE graduates have completed or are enrolled in Doctorate Programs (Appendix E). This represents a significantly higher number of master's graduates earning doctorates.

Program Flexibility and Access

Courses in the MSCTE program are offered statewide including offering classes through the Flint and Traverse City extension sites as well as on the main campus. Many of the classes are offered as hybrid delivery which provides students the opportunity to attend a minimum number of face-to-face class on the main campus or on one of the extension sites and complete the remaining component of the course online.

- Instructor Option (32-33 Credits required)
 - 5 of the 9 Core and Required courses are offered as 100% online
 - 1 of the required courses meets one Saturday at the beginning of the semester and rest online
 - 3 of the 9 required courses are offered as hybrid
 - 1 of the required hybrid courses is required in ALL graduates' program in the SOE and will only be offered as a hybrid
 - 12 credits of the program can be electives and 100% of these electives can be online

- In the Training & Development Option (36 credits)
 - 8 of the 12 Core and Required courses are offered 100% online
 - 3 of the 12 Core and Required are hybrid delivery
 - 3 of the 12 Core and Required meet face-to-face delivery
- Post-Secondary Option (34 credits)
 - 4 of the 11 Core and Required courses are offered online
 - 3 of the 11 Core and Required courses are hybrid delivery
 - 6 of the 11 Core and Required courses are face-to-face delivery
- Advanced Graduate Certificate in TQM in Education
 - 100% of the certificate is offered online

For many years summer was a big semester for the School of Education. However, changes in financial aid laws and Pell Grant eligibility made it difficult for students to attend during the summer.

The trend for the MSCTE is to become more flexible with many optional access points. Because we have had an increase over the years of international students, the flexibility has become more difficult as the international students are required to have face-to-face classes. This has resulted in offering two sections of an online course—one for face-to-face delivery and one for online. The sections are combined for faculty loading purposes.

Visibility and Distinctiveness

Master of Science in Career & Technical Education has a competitive advantage in that it offers flexibility, hybrid and online courses, and is willing to accept up to nine credits from another institution that represents a focus of study. The Instructor Option concentration flexibility is expressed in its ability to accept up to 15 credits of electives designed to address the students' area of interest. The hybrid and online courses allow the student to complete the coursework from a distance thus interesting a larger number of working and/or nontraditional students. Some students are attracted to the program because it may allow up to nine graduate credits from prior or an institution that held highly specific courses in which the student has an interest but is unwilling to obtain an entire Master's degree from said institution.

The MSCTE program offers rigorous, respected academic programs that prepares students for success in the classroom and equipping them to make a difference in the world. In order to be competitive, the program attempts to offer many classes online. Online students have the expectation that the level of education and skills they receive will be equivalent to those of on-campus courses. The online courses are designed to be outcome-driven by establishing a clear set of learning objectives (outcomes). Students are allowed to resubmit assignments to improve their scores and performance. Students complete authentic projects that centers on real-world applications.

Competitive Programs

Western Michigan University (WMU)

Western Michigan University (WMU) is the largest competitor to FSU's graduate CTE program. In 2017, WMU changed the name of their program from Career & Technical Education to Workforce Education and Development. Their graduate degree is a Master of Arts in Workforce Education and Development. Their program offers three special focus areas of (1) Leadership, (2) Instruction, and (3) Post-baccalaureate teaching certification. One of their advantages of their program is that candidates in their program can complete the requirements for Initial Teacher Certification as the first part of their master's degree and can lead to a State Secondary Provisional Certificate with an Endorsement in Marketing, Business, Family and Consumer Sciences, or Industrial Technology and a Vocational Endorsement.

<http://www.wmich.edu/familyconsumer/academics/masters/workforce>

WMU offers a Ph.D. in Educational Leadership with a concentration in Workforce Education and Development (formerly Career & Technical Education). The degree is awarded from Western Michigan University, but can be done in cooperation with Ferris State University. All workforce education and development courses are articulated between the institutions and participants have the option of completing a total quality management certificate awarded from Ferris State University as part of the doctoral degree program.

<http://www.wmich.edu/leadership/academics/ed-leadership/doctor/wed>

Wayne State University (WSU)

Wayne State University (WSU) offers a Master of Arts in Teaching (MAT) that leads to certification in Career & Technical Education occupational area. They also offer a doctorate in Career & Technical education as a concentration in the large umbrella of Curriculum & Instruction.

<http://coe.wayne.edu/ted/career/doctorate-index.php>

<http://coe.wayne.edu/ted/career/ma-secondary-index.php>

Central Michigan University (CMU)

Central Michigan University (CMU) offers a Master of Science in Administration—Training and Development and a Graduate Certificate in Training and Development. The MSA is a 36-credit hour program with 18 hours of core classes and 18 hours based on selected concentration. The graduate certificate requires 15-18 hours dependent on concentration. The CMU website indicates both of these are offered on their main campus, at their satellite campuses, and online.

<https://www.cmich.edu/colleges/cgs/programs/Pages/training-and-development-msa.aspx>

The major benefits of the competing programs including being able to receive certification while enrolling in a graduate program. The SOE strategically decided to eliminate this option because of

- FSU policy on restricted cross listing of courses at the graduate and undergraduate level (all of the certification courses are offered at the undergraduate level)

- The additional cost of students paying graduate tuition resulting in the same as our undergraduate degree
- The increase in credits for a master's degree because teacher certification requires additional credits—especially related to a semester of student teaching
- A master's degree holder may have difficulty securing open teaching positions because schools can pay teachers with only a bachelor's degree less money and therefore save on budget costs.

The initial CTE teaching certificate issued by the Michigan Department of Education is called the ***Standard CTE Certificate*** and is required for teaching in state-approved career and technical education programs in the area specified on the certificate. Some teacher candidates can be employed while earning the certificate. Teacher candidates who have not employed an educator preparation program must work with a Michigan educator preparation institution approved to offer CTE program and work with the institution to meet the following requirements:

1. Hold a bachelor's degree in any area
2. Hold a major or minor in the field of specialization in which CTE certification is being requested
3. Document work experience in the CTE area that has been earned within the last six years totaling a minimum of 2 years (4,000 clock hours)
4. Complete a minimum of **six semester credit hours** of professional or CTE education credit

The Michigan Department of Education requires ALL teachers are required to also take a course in Teaching Reading—Secondary Area.

Northern Michigan required 6 undergraduate credits

TE 350—Methods and Materials in Industrial Technology Education

ED 440—Secondary Student Teaching, 3 week placement

Wayne State Requires 6 graduate credits

CTE 5410 Teaching Methods in CTE Classroom I

CTE 6993—Teaching Methods in CTE Classroom II

Western Michigan University offers Standard CTE Certificate by completing 3 graduate courses (9 credits). The Reading Course is not listed but will be required.

WFED 5120—Principles of WFED

WFED 5130—Teaching Methods in WFED

WFED 5420—Curriculum in WFED

Ferris State University requires 9 credits

EDUC 443/543 Teaching Reading—Secondary Area

EDUC 415/508 Teaching Special Needs

And One elective

EDUC 289/501 Principles of Teaching & Learning

ECTE 320—Foundations of CTE I

ECTE 325—Foundations of CTE II

EDUC 516—Issues in Education

ECTE 510—Evaluation in CTE

EDUC 620—Advanced Integrated Curriculum Design & Evaluation

ECTE 504—Curriculum Design in CTE

Re-evaluating the FSU requirements might encourage additional students to come into the program. None of the other institutions include the Teaching Reading—Secondary Area as part of the CTE Standard Certificate requirement. For a person who is leaving business and industry to become a teacher, it might be more important to expose the new teacher to teaching techniques

- Principles of CTE so they understand the environment, legislation and regulations for their new occupation of teaching
- Curriculum—how to develop and turn the industry-validated, state and national technical standards into curriculum
- Assessment—the importance of program and student accountability and measuring student growth in CTE

Preeminent Program

The U.S. News and World Report ranks the Best Technical/Vocational Programs in Education. They define technical/vocational education degree programs that ready instructors to better teach skills-based courses, such as plumbing, computer repair and cosmetology. These are the top schools for graduate programs in technical/vocational education. In 2018 they ranked three programs--#1—Ohio State University and #2 tied with Pennsylvania State University and University of Georgia.

<https://www.usnews.com/best-graduate-schools/top-education-schools/vocational-education-rankings?int=a11808&int=a06908>

The **Ohio State University** remains the preeminent programs in Career & Technical Education. Their program is housed in their Department of Educational Studies Specialization Curriculum and is called Workforce Development and Education (WDE) <http://ehe.osu.edu/educational-studies/wde/> . Their degree is Master of Arts in Educational Studies requires 9-10 core credits plus specialization areas within that degree in in

- Career and Technical Education (24 credits)
- Adult Education and Human Resource Development (21 credits)
- Integrated Business Education (37 credits including student teaching)
- Family and Consumer Sciences Education (34 credits including student teaching)

Penn State’s Workforce Education and Development program offers certificate programs as well as graduate degree programs leading to master’s of education (Med), a master’s of science (MS) degree, and a Master of Professional Studies (MPS) World Campus degree. <https://ed.psu.edu/lps/workforce-ed/masters>

- Master's of Education (MED) - University Park
 - The M.Ed. candidates must complete six credits taken outside of the Workforce Education and Development program and three credits of WF ED elective. A candidate for the M.Ed. must complete three credits of WF ED 59, Individual Studies. and a comprehensive exam.

- Master's of Science (MS) - University Park
 - The culminating experience for the Master of Science (MS) degree is a thesis, essay, or paper acceptable to the student's adviser and graduate program director.
- Master of Professional Studies (MPS) - World Campus
 - The Masters of Professional Studies (M.P.S.) in Organization Development and Change is an online degree aimed toward professionals in fields such as talent management, corporate development and performance improvement in government, nonprofit organizations and industry. The program is designed with an international focus, ensuring that students are exposed to global issues and the way change is occurring around the world and will emphasize the importance of technology when it comes to facilitating change.

The **University of Georgia** offers a MAT in Workforce Education that promotes career and technical education and workforce preparation throughout the lifespan by advancing the knowledge base of career and technical education and workforce preparation, preparing professionals for the public and private sectors, and providing quality instruction, research, leadership, service, and policy development. <http://grad.uga.edu/index.php/current-students/policies-procedures/academics/degree-programs/5507/workforce-education-mat/>

They also offer Med in Workforce Education that promotes career and technical education and workforce preparation throughout the lifespan by advancing the knowledge base of career and technical education and workforce preparation, preparing professionals for the public and private sectors, and providing quality instruction, research, leadership, service, and policy development. <http://grad.uga.edu/index.php/current-students/policies-procedures/academics/degree-programs/5505/workforce-education-med/>

These institutions have risen to this level because they were land-grant institutions with national prominence in Vocational Education many years ago. The Ohio State University received the U.S. Office of Education's National Center for Research in Vocational Education \$6 million grant for over 10 years (1977-1987). In addition, EPDA (Education Professions Development Act) Leadership Development Awards Program Graduate Study, Research and Internship in Vocational Education in the 1970's provided 11 select universities (including Ohio State, Penn State, Virginia Tech, Illinois, etc.) with fully funded candidates for doctorates in vocational education. These institutions became the premier institutions in what is now known as career & technical education.

In addition, these institutions receive multiple national and state grants related to CTE and likely participate as contributors to the National Research Center for Career & Technical Education.

Prior to coming to Ferris, Dr. Manley was a Research Specialist at the National Center for Vocational Education at The Ohio State University in the 1980's and as a result secured multiple state grants for Ferris in CTE.

- 2006-2012, Michigan Department of Labor & Economic Development, Michigan Center for Career and Technical Education (MCCTE-FSU), No. 07CTE002, approximately \$300,000 annually
- August, 1989, "Vocational-Technical Education Curriculum Project," Michigan Department of Education, Lansing, \$641,000.

- October, 1989, "Vocational-Technical Education Personnel Development Project," Michigan Department of Education, \$390,000

Unfortunately, these types of grants are no longer available in Michigan

The most common theme of these three premiere institutions is that their degrees are in titled “Workforce Development”—not “Career and Technical Education.” Western Michigan University changed their name to be Workforce Development last year.

Another interesting option is Penn State’s online Master’s in Professional Studies which aligns to our MSCTE Training & Development Option. This option could be explored in more detail.

Demand

During the Current Student and alumni surveys, we asked students to rate the reasons they selected FSU’s MSCTE program.

Figure 30 Alumni Survey Results (Table 20) and Current Student Survey Results (Table 16)

	Alumni Total N-17	Current Students N=7
Type of Program	8	5
Convenient Schedule	7	3
Cost	6	3
Location of Courses	6	4
Academic Reputation	6	2
Advice of Colleagues	3	2
Admission Standards	2	2
on-line based with a few weekends worked for my schedule.	1	
Talking with Katherine Manley. She understood my career vision and communicated how the program could help me achieve my professional goals.	1	
This degree was the most relevant degree to higher education leadership offered at Ferris.	1	
Time	1	
FSU offered the IOC Certification that also could count towards a master’s degree		1

When asked if the students enrolled in the program would recommend the program at FSU to others,

- 100% of current students would recommend WITHOUT RESERVATIONS the FSU’s MSCTE to a friend or colleague (Table 13 on Current Student Results)
- 88.9% of the alumni would recommend FSU’s WITHOUT RESERVATION the FSU’s MSCTE program to a friend or colleague (Table 17 on Alumni Survey Results)

When asked to compare the quality of graduate education provided in this program with that of other universities/colleges,

- 83% of the current students report “Better” with the remaining not able to judge (Table 15)
- 41% of the alumni reported “Better” and 12% rated “About the Same” with the remaining “not able to judge” (Table 20)

When asked overall how satisfied they were with their graduate experience at FSU,

- 95% of the alumni reported Very Satisfied or Satisfied (Table 18)
- 83% of the current students reported “very satisfied” (Table 14)

Labor Market Demand

The Bureau of Labor Statistics (BLS) reports that overall employment of career and technical education teachers is projected to grow 4 percent from 2016 to 2026 (<https://www.bls.gov/ooh/education-training-and-library/career-and-technical-education-teachers.htm#tab-6>), slower than the average for all occupations. Employment growth will vary by type of institution. While employment of vocational teachers in postsecondary institutions is projected to show little or no change, employment of career and technical education teachers in middle and secondary schools is projected to grow about as fast as the average for all occupations.

Overall demand for career and technical education teachers will be driven by a continued demand for programs that prepare students for technical careers at middle and high schools and at postsecondary institutions.

As middle and high school students continue to be required to take more academic classes and fewer career and technical classes, employment growth of career and education teachers in middle and high schools may be affected.

In addition, public schools are dependent on government funding for career and technical programs. When budgets for these programs are reduced, employment growth for career and technical teachers may be limited.

However, forty-two Governors delivered their 2017 State of the State addresses, and workforce development and CTE emerged as a strong priority—the second most popular education topic mentioned in Governors' State of the State addresses, after school financing. In addition, while the need for CTE programming aligned to labor market demands is high, many States and local school districts are reporting significant shortages of CTE teachers. Data reported to the Department of Education in 2016, for example, show that 32 States are experiencing shortages of CTE teachers. (<https://cte.ed.gov/initiatives/high-school-cte-teacher-pathway>)

On June 13, 2017, the Department announced a new grant opportunity to address State and local shortages of high school CTE teachers: the High School Career and Technical Education (CTE) Teacher Pathway Initiative (CTE-TPI). This new initiative is intended to improve CTE programs assisted under the Perkins Act by increasing the supply of high school CTE teachers for CTE programs that align to In-Demand Industry Sectors or Occupations in States and communities where shortages of such teachers exist. Applications were due July 28, 2017.

In 2016-17, Michigan reported the following CTE shortage

<https://teach.com/become/teaching-credential/state-requirements/michigan/#shortage>

- Allied Health Technology
- Agriculture
- Business Admin & Operations
- Construction Trades
- Health Sciences
- Public Safety/Protective Services
- Automotive Technician
- Child & Custodial Care Services
- Information Technology
- Personal & Culinary Services
- Radio & TV Broadcasting Technicians

O’Net Online has detailed descriptions of the world of work for use by job seekers, workforce development and HR professionals. The following tables provide the projected employment for CTE teachers, Secondary schools in Michigan and Yearly Wages for Career/Technical Education Teachers, Secondary School in MICHIGAN

Figure 31 O’Net Projected Employment for Career/Technical Education Teachers, Secondary School in MICHIGAN

National	Employment		Percent Change	Projected Annual Job Openings*
	2016	2026		
United States	78,700	83,700	6%	6,000

State	Employment		Percent Change	Projected Annual Job Openings*
	2014	2024		
Michigan	1,670	1,530	-8%	40

Figure 32 O’Net Projected Employment for Vocational Education Teachers, Postsecondary in MICHIGAN

National	Employment		Percent Change	Projected Annual Job Openings*
	2016	2026		
United States	128,000	129,800	1%	9,800

State	Employment		Percent Change	Projected Annual Job Openings*
	2014	2024		
Michigan	3,700	4,000	+8%	100

Figure 33 Yearly Wages for Career/Technical Education Teachers, Secondary School in MICHIGAN

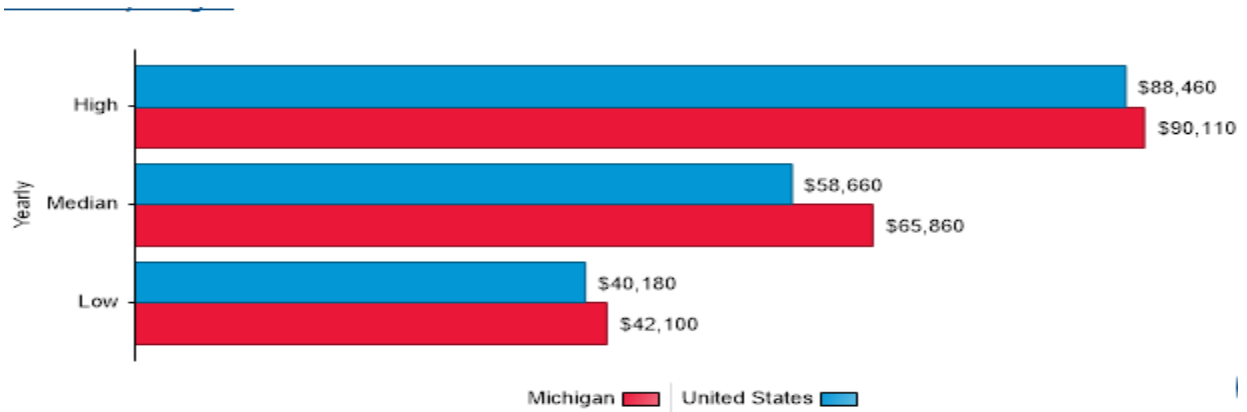
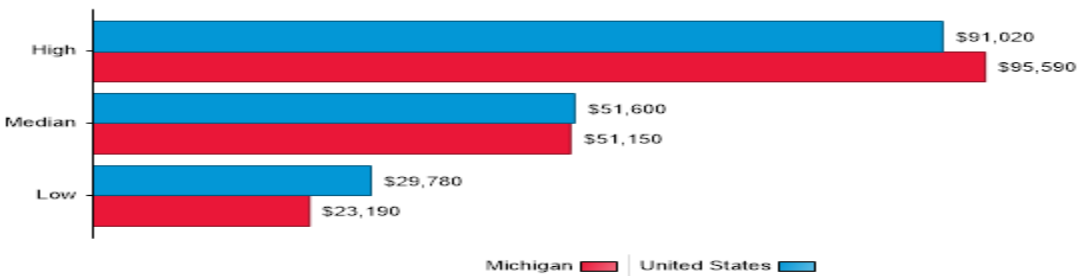


Figure 34 Yearly Wages for Vocational Education Teachers, Postsecondary in MICHIGAN



- 88.9% of the alumni would recommend FSU’s WITHOUT RESERVATION the FSU’s MSCTE program to a friend or colleague (Table 17 on Alumni Survey Results)

Unfortunately, the program has not had a specific Advisory Board, but rather uses the School of Education Advisory Board. Their last meeting was held on Feb. 21, 2017. The Board discussed the issue that all of the other academic colleges (e.g., Arts & Science, Technology, etc.), except College of Technology, do not offer master’s level courses so students are not able to take cognate or content specific courses outside of Education. The Advisory Board discussed ways to increase enrollments including implementing a possible cohort model and/or working with Grand Rapids Public Schools and other charter schools. In April, 2017, the Advisory Board was asked to provide input into a SWOT analysis with most of the discussion related to the CAEP accreditation.

Student Achievement

Students in these graduate programs are typically employed full time as teachers and attend graduate school on a part time basis. They are not members of RSO’s, Student Government, or the Honors Program. The SOE does honor a student annually with the graduate student award at the spring banquet. Students are encouraged to join professional organizations related to their field such as ASCD, PDK, ACTE, etc.

Students in the degree options complete a capstone thesis or project at the end of their program of study. These projects are all research-based and encourages students to reflect on their teaching practice to make positive change. These capstones are presented to a committee of three including two faculty members, and a member from the student’s field, such as administrator.

Many students are encouraged to present their projects at a professional organization’s conference. Ideally, the SOE would budget so faculty and students could present together.

Employability of Graduates

Thirty (30) of the FSU MSCTE graduates have gone on to earn a doctorate degree with many of these enrolling in the Western Michigan University cooperative Ph.D. program. Eight of the 35 Advanced Graduate Certificate in TQM program have enrolled in the program.

Figure 35 Advanced Graduate Certification in TQM Graduates Enrolling in the Western Michigan University Doctorate Program

		Advanced Graduate Certificate in Total Quality Management in Education Graduates	Year Graduated
1		Merritt, Nicole Anne	2018
2		Riggs, Jennifer	2014
3		D'Avignon, Patricia L.	2013
4		Eichenberg, Shirley	2013
5		Braun, Tara L.	2012
6		Glentz, Tracy L.	2012
7		MacEachron, Sheila A.	2012
8	**	Martel, Michael A.	2012
9		Root, Jennifer J.	2012
10		Braun, Tara L.	2012
11		Weemaes, Michelle E.	2012
12		Carson, Michael A.	2009
13		Coglan, James P.	2009
14		Harper, Therese E.	2009
15	**	Koepf, Tina M.	2009
16		Richardson, Michelle	2009
17		Davis, Natalie K.	2008
18		Alger, David J.	2007
19	**	Flowers, Kenneth	2007
20		Kuczzero, Thomas R.	2007
21		Vaid, Ibrahim	2007
22		Bracey, LaShonda Y.	2006
23	**	Kain, Karen	2005
24		Kolanowski, Ed	2005
25		Sherman, James Lewis	2005
26		Whiteside, John	2005
27		Clouse, Gayle E	2004
28		Miller, Dana L	2004
29		Anderson-Williams, Helen	2003
30		Dorsey, Shawnice A.	2003
31	**	Gaunt, David	2003
32	*	Huff, Jimmie Ray	2003
33	*	Kennedy, Eddie	2003
34		Tipton, LuJuanna S.	2003
35	*	Pohja, Karen	2003

*Enrolled at WMU-FSU Cooperative Ph.D. but did not graduate

**Enrolled into WMU-FSU Cooperative Ph.D. and graduated (or will graduate) with Ph.D.

Career assistance could be advertised and provided to graduate students. The resources available to them for updating resumes, revising cover letters, and preparing for interviews could prove helpful especially for students seeking to change career paths. The Graduate Program Coordinators could contact Career Services for presentations.

Faculty Composition and Engagement

Organization

There currently are 2 tenure-line faculty assigned to the MSCTE—Dr. Katherine Manley and Dr. F. Mike Ennis. Both Drs. Manley and Ennis teach foundational courses in SOE’s graduate and undergraduate programs so 100% of their time is not specific to the MSCTE.

Other Core courses in the MSCTE are taught by other tenure-track faculty and adjuncts are typically not used for this program. Dr. Manley is typically assigned to teach on the main campus and Dr. Ennis is assigned to the Flint campus. Table xx shows the faculty who teach core courses in the MSCTE. Dr. Manley has been the only faculty to teach the Advanced Graduate Certificate in TQM in Education courses.

Figure 36 Faculty Profile of MSCTE Courses

Name & Degree	Type of Position	Average Semester Load	Focus Areas/ Courses Taught	Campus
Katherine Manley, Ed.D.	Professor	15	MSCTE & Training & Development, Research Course; TQM Courses	Main Campus
F. Mike Ennis, Ph.D.	Professor	15	MSCTE CTE Foundations, CTE Issues, CTE Curriculum and Technology courses & undergraduate CTE, DCCL	Flint
Brady Flachs, Ed.D.	Assistant Professor	15	Special Education and Educational Leadership courses	Main Campus
Virginia Hines, Ed.D.	Professor	12	Diversity Course	Main Campus
Amy Kavanaugh, Ed.D.	Professor	12	Advanced Curriculum course	Main Campus
David Alban, Ph.D.	Assistant Professor	12	Educational Leadership courses	Main Campus

Because of low enrollments, the SOE has negotiated a concept called “bundling” to handle faculty loads. For example, Spring, 2018, Dr. Manley was assigned to teach

- ECTE 509, Occupational Analysis/Needs Assessment (3 credits) (students=2)
- ECTE 505, Training in Business & Industry (3 credits) (students=2)

- ECTE 607, Instructional Systems Design and Development (3 credits) (students =9)
- EDUC 663 Principles of Data-Driven Decision Making for Educators (4 credits) (students =3)

She received 6 credits of release time for the CAEP data analytics, and 6 bundled credits for the four courses (13 credits) listed above.

During Fall, 2017, Dr. Manley was assigned to teach

- ECTE 510, Evaluation in CTE (3 credits) (students =8)
- EDUC 663, Principles of Data-Driven Decision Making for Educators (4 credits) (students=5)
- ECTE 509, Occupational Analysis/Needs Assessment (3 credits) (students=1)
- ECTE 505, Training in Business & Industry (3 credits) (students=1)
- ECTE 681, Capstone Committee Chair (students=3)
- ECTE 591, Student internship Supervisor (students =1)
- ECTE 595, Content/Instructional Workshops & Seminars in CTE (students =2)

She received 3 credits of release time for CAEP data analytics and the remaining 9 credits for the above courses.

The efficiency and effectiveness of the current structure serves the purpose for the number of students we have at this time. If the programs experienced significant growth, this structure would need to be evaluated.

Curriculum Vitae

There are no full-time temporary or adjunct faculty used in the program.

Service

Manley, Katherine

- Release time FSU-SOE, for CAEP data analysis (3 to 6 credits each semester for 2 years)
- CITI & NIH - IRB training certificate, approved and mandated human subjects training source for conducting research at Ferris State University.
- 2005-2015, Director of Assessment & Evaluation, Automotive Manufacturing Technical Education Collaborative (AMTEC), former NSF funded Advanced Technology Education Centers (ATE) (\$5.5 million dollar, four-year grant)
- Senior Consultant to NOCTI and Nocti Business Solutions (30+ years)
- Board of Judges, Michigan Performance Excellence Program (10+ years)

Ennis, F. Mike

- Ferris State University Institutional Research Board Member
- CITI & NIH - IRB training certificate, approved and mandated human subjects training source for conducting research at Ferris State University.
- Doctorate in Community College Leadership – Faculty Member – EDSL 840 Qualitative Research
- State of Michigan CTE Rules Revision Committee 2014-2017
- Technology Integration and Tools – PD Presenter LISD, Aug. 2014

Research

Katherine Manley

- State Grant- 2006-2012, Michigan Department of Labor & Economic Development, Michigan Center for Career and Technical Education (MCCTE-FSU), No. 07CTE002, approximately \$300,000 annually
- Director of Evaluation and Assessment, 2007 & Continuing, Automotive Manufacturing Technical Education Consortium (AMTEC), National Science Foundation (NSF) National Center of Excellence, \$5 million 2007-2011; \$3 million 2012-2016.
- Consultant with The National Occupational Competency Testing Institute (NOCTI), Senior Consultant
- Conducted Occupational Job and Task Analysis, Occupational Skill Test Development (written and performance tests) and Cut Score Development for such companies/organizations as:
 - SpaceTEC, NSF Funded ATE Center, 2016 and continuing
 - FANUC America Robotics, Certified Education for Advanced Automation (CERTEducation), 2016 and continuing
 - The International Association of Bridge, Structural, Ornamental and Reinforcing Iron Workers Union, AFL-CIO, 2016 and continuing
 - Boeing, Technical Reports for Certification Tests

Manley, Katherine (recent speaking, presentations)

- “AMTEC’s Collaborative Methodology to Develop State-of-the-Art Curriculum and Establish a Skilled Workforce Pipeline” with Stanley Chase, Danine Tomlin, July 21, 2014, Hi-Tec (High Impact Technology Exchange Conference), Chicago, IL
- 2015 Webinar Series--“*Plumbing & HVACR Instructor Bootcamp Webinar Series*” Sponsored by Plumbing-Heating-Cooling Contractors Association (PHCC) Educational Foundation and Kohler
 - Wednesday, August 5, 2015, 11 a.m. EDT - Webinar #1
Planning Instruction & Turning Standards into Curriculum - recorded webinar
 - Friday, August 7, 2015, 11 a.m. EDT - Webinar #2
Tips for Effectively Delivering Instruction - recorded webinar
 - Thursday, August 20, 2015, 11 a.m. EDT - Webinar #3
Tips for Effectively Evaluating Student Performance - recorded webinar
 - Thursday, August 27, 2015, 11 a.m. EDT - Webinar #4
Technology Tips and Tools - recorded webinar
- Presentation—2018 Career Education Conference, “*What CTE Teachers Should Know and Be Able to Do*”, Grand Rapids, MI, January 29, 2018

- Presentation—2017 Career Education Conference, “*A System’s Approach to Industry-Driven Curriculum and Assessment*”, Grand Rapids, January 29, 2017.
- Presentation—2017 Career Education Conference, “*Reflect, Transform, and Lead: A New Vision for Education*”, Grand Rapids, MI, January 29, 2017.
- Keynote Presenter—Partnering for Transfer! “*Reflect, Transform and Lead—A New Vision for Educators*,” Big Rapids, MI, October 28, 2016
- Keynote Presenter—2016 HVACR Instructor Workshop, “*Reflect, Transform and Lead—A New Vision for HVACR Education*”, Big Rapids, MI, August 1, 2016
- Presentation—2016 HVACR Instructor Workshop, “*A Sharper Focus on Technical Workers in the HVACR Industry*”, Big Rapids, MI, August 3, 2016
- Presentation—High Impact Technology Exchange Conference, (Hi-Tec), “*How AMTEC is Using Data*,” Pittsburgh, PA, July 27, 2016
- Presentation—MECHA-WA/AMTEC-KY Workshop, Center of Excellence for Aerospace and Advanced Manufacturing, “*AMTEC’s Core Values and Concept’s—AMTEC’s Innovation and Educational Foundation*,” Everett, WA, May 16, 2016
- Presentation—MECHA-WA/AMTEC-KY Workshop, Center of Excellence for Aerospace and Advanced Manufacturing, “*Measurement, Analysis and Knowledge Management—What the Data Tells Us*,” Everett, WA, May 16, 2016
- Presentation—MECHA-WA/AMTEC-KY Workshop, Center of Excellence for Aerospace and Advanced Manufacturing, “*Best Practices on Implementation—What Worked—What Didn’t Work—Results of Touch Lesson’s Learned*,” Everett, WA, May 16, 2016
- Presentation—AMTEC National Visiting Committee, “*Goal 4 Assessment Results*”, Hammond, IN, April 12, 2016
- Presentation—AMTEC Full Circle Spring Academy, “*Competency Based Education—What is it, Why it should be used*”, Lansing, MI, April 4, 2016
- Presentation—AMTEC Full Circle Spring Academy, “*AMTEC Assessment Tools—An Overview of the AMTEC Process*”, Lansing MI, April 4, 2016
- Presentation—2016 American Technical Education Association (ATEA), “*AMTEC Assessment Tools*,” Orange Beach, FL, March 11, 2016
- Presentation—2016 American Technical Education Association (ATEA), “*Competency Based Education*,” Orange Beach, FL, March 11, 2016
- Presentation--“*How AMTEC is Using Data to Improve Instructional Delivery and Performance*,” National Career Pathways Network Conference (NCPN) Annual Conference, Dallas, TX, October 30, 2015.
- Presentation—“*AMTEC’s Collaborative Methodology for Developing State-of-the-Art Curriculum and Establishing a Skilled Workforce*,” National Career Pathways Network Conference (NCPN), 2014, Orlando, FL, October 14, 2014
- Presentation--“*Automotive Manufacturing Technical Education Collaborative: Developing a State of the Art Curriculum and Establishing a Skilled Workforce Pipeline*”, ACTE Best Practices Conference, Cape Code, MA, September 18, 2014.
- Keynote Presentation—“*Symposium 2014—Future Insight: Competency-Based Education. “A Contemporary Application with Employers*”, July 22, 2014, Traverse City, MI
- Presentation—“*AMTEC’s Collaborative Methodology to Develop State-of-the-Art Curriculum and Establish a Skilled Workforce Pipeline*,” HI TEC (High Impact Technology Exchange Conference), Educating America’s Technical Workforce, July 21, 2014, Chicago, IL

Ennis, F. Mike

Chair of the following Dissertations:

- African Americans and Hispanics in STEM Education - Moaty Fayek - 2018
- The Common Elements of an Educational Case Management Model for Nontraditional Students in the Community College - Elizabeth Law Orbits - 2017
- Development of a Success Model for Student Veterans at Community Colleges - David Wildfong - 2017
- A Case Study: Student Evaluations of an Early College Support System – A Quality Improvement Initiative - Steven D. Reed - 2017
- The Creation of an Academic Advisor Evaluation Tool at a Midwest Urban Community College - Mari Straith Yancho - 2014

Conference Presentations

- Michigan Career Education Conference, Tech Tools Update, Feb 3, 2015-2017
- Michigan Career Education Conference, Promoted A Route to CTE Teacher Certification, Feb. 2015

Ferris State University College of Education and Human Services Committee Membership:

- Director Search Committee - Member 2017
- College of Education and Human Services Tenure Committee 2016-2018
- School of Education Tenure Committee Chair 2016-2018
- CAEP Standard 3.0 Committee Chair 2016-2017
- College Diversity Committee, 2013-2015

Ferris State University Wide Committees

- Appointed University Institutional Review Board, Member, 2012-18
- Doctorate in Community College Leadership Curriculum (DCCL) Committee, Member, 2012-18
- Ferris Connect Advisory Board, Member, 2010-2016

Awards and Recognition

- Senate Professional Development Funds – China Practicum Trip – 2016
- Faculty Center for Teaching and Learning – International Grant – 2016
- Faculty Center for Teaching and Learning – Game Based Conference Funding – 2015

Publications / Projects:

- Future projections: Emerging technologies offer opportunities and challenges to the instructional process and validation of student learning. Article in Exploring the future of community colleges: A compilation of essays by contemporary leaders: 2014 Scholar Talk Press.

Continuing Education

Manley, Katherine

- Conference—National Career Pathway Network (NCPN) Conference, Dallas, TX, October 28-30, 2015.
- Conference--Advanced Technological Education (ATE) Principal Investigators Conference, (American Association of Community Colleges), Washington, D.C. October 21-23, 2015.
- Pre-Conference—Conference for Adult and Experiential Learning (CAEL), *Competency-Based Education and Assessment*, November 11, 2014, Chicago, IL.
- Conference—Conference for Adult and Experiential Learning (CAEL), 2014 International Conference, Mobilize Learners—Revolutionize Assessment, Chicago, IL, November 12-14, 2014
- Conference--Advanced Technological Education (ATE) Principal Investigators Conference, (American Association of Community Colleges), Washington, D.C. October 22-24, 2014.
- Conference—National Career Pathway Network (NCPN) Conference, Orlando, FL, October 12-14, 2014
- Conference—Association of Career & Technical Education, Best Practices Conference, Discovering Best Practices and Innovations in Career and Technical Education, Cape Cod, MA, September 17-19, 2014.
- Conference—HI TEC (High Impact Technology Exchange Conference), Educating America's Technical Workforce, July 21-24, 2014, Chicago, IL
- Professional Memberships
 - Association for Supervision and Curriculum Development (ASCD), Premier Member
 - American Career and Technical Education Association (ACTE)
 - American Society for Training and Development (ASTD)
 - Michigan Education Association (Ferris Faculty Association)
 - Michigan ACTE
 - Skills USA
 - Phi Delta Kappa (educational honorary)
 - International Vocational Education and Training Association (IVETA)

Ennis, F. Mike

- Cayuse Training IRB 2016
- CAEP Training 2016
- NIH Human Subjects Training and Certification – valid from 2016-2018
- CITI IRB Training – Social Sciences – valid from 2014-2019
- Michigan CAEP Meeting, Hope College, MI 2017
- CAEP St. Louis, Conference, March 2017
- CAEP San Diego, Conference, Feb. 2016

Stakeholder Perceptions of the Quality and Composition of Faculty

The Current Student Survey Results (Appendix B—Table 20) and the Alumni Survey Results (Appendix C—Table 27) provide a summary of the perception of these stakeholders regarding the quality of the faculty

Figure 27 Current Student Survey Results Regarding Faculty and Program

We are concerned with how well you feel you were prepared to become a professional. Please indicate your level of agreement or disagreement with the following statements: (Percent Strongly Agree and Agree)

		Instructor N=5	PS N=1	Total N=6
1	Most of my professors at FSU in the Master's program are good teachers.	100.0%	100.0%	100.0%
2	Earning a Master's degree will improved my income.	100.0%	100.0%	100.0%
3	The learning environment in most of the course is relaxed and supportive.	100.0%	100.0%	100.0%
4	The courses I have taken in my Master's program were helpful to me professionally.	100.0%	100.0%	100.0%
5	My program of study is appropriate in terms of meeting my professional goals.	100.0%	100.0%	100.0%
6	The office staff at Ferris is friendly and helpful.	80.0%	100.0%	83.3%
7	Most of my professors are available outside of class to help students.	100.0%	100.0%	100.0%
8	I have already implemented new teaching or work strategies as a result of my graduate coursework.	100.0%	0.0%	83.3%
9	Most of my classes in the Master's program at Ferris have been stimulating.	100.0%	100.0%	100.0%
10	I modified or changed curriculum content in the courses I teach as a result of my graduate coursework. (Check N/A if this does not relate to your current situation)	100.0%	0.0%	83.3%
11	The learning experiences in most of the courses relate to my job.	100.0%	100.0%	100.0%
12	I implemented new assessment/grading/evaluation strategies in my work as a result of my graduate coursework.	100.0%	0.0%	83.3%
13	Earning a Master's degree will contribute to a job promotion for me.	60.0%	100.0%	66.7%
14	The office staff at the extension offices is friendly and helpful.	60.0%	100.0%	66.7%
15	Once I earn my Master's degree, I will be seeking a new position.	40.0%	100.0%	50.0%
16	Courses taught by adjunct faculty have been very good.	40.0%	0.0%	33.3%

Figure 38 Percent Alumni Perception of Faculty and Program

We are concerned with how well you feel you were prepared to become a professional. Please indicate to which you agree or disagree with the following statements: (Strongly Agree and Agree)

		Instructor	PS	TD	Total
1	Most of my professors at FSU in the Master's program were good teachers.	100.0%	100.0%	100.0%	100.0%
2	The Master's degree has improved my income.	100.0%	75.0%	75.0%	88.2%
3	The learning environment in most of the course was relaxed and supportive.	100.0%	100.0%	100.0%	100.0%
4	The courses I took in my Master's program were helpful to me professionally.	88.9%	100.0%	100.0%	94.1%
5	My program of study was appropriate in terms of meeting my professional goals.	100.0%	100.0%	100.0%	100.0%
6	The office staff at Ferris was friendly and helpful.	100.0%	100.0%	75.0%	93.3%
7	Most of my professors were available outside of class to help students.	100.0%	100.0%	100.0%	100.0%
8	I implemented new teaching or workforce development strategies in my job as a result of my graduate coursework.	88.9%	100.0%	100.0%	94.1%
9	Most of my classes in the Master's program at Ferris were stimulating.	88.9%	100.0%	100.0%	94.1%
10	I modified or changed curriculum content in the courses I teach as a result of my graduate coursework. (Mark N/A if you don't currently teach)	88.9%	100.0%	100.0%	93.8%
11	The learning experiences in most of the courses related to my job.	88.9%	75.0%	100.0%	88.2%
12	I implemented new assessment/grading/evaluation strategies in my job as a result of my graduate coursework.	88.9%	100.0%	100.0%	93.3%
13	The Master's degree has contributed to a job promotion for me.	87.5%	33.3%	100.0%	80.0%
14	The office staff at the extension offices was friendly and helpful.	100.0%	100.0%	100.0%	100.0%
15	Since earning my Master's degree, I have or will be seeking a new position.	75.0%	100.0%	100.0%	85.7%
16	Courses taught by adjunct faculty were very good.	100.0%	66.7%	100.0%	88.9%

Program Policies and Procedures

Faculty attend conferences related to accreditation financed by the department or the college. They may also attend conferences using funds earned through the Faculty Center for Teaching and Learning and grants earned from other departments across the university. Faculty encourage each other, the dean and the program director have asked faculty to attend opportunities to stay current in Michigan.

The minimum qualifications for tenure line faculty is a doctorate in a relevant field and teaching experience. Ferris State University has primarily been a teaching institution and the SOE supports that with the employment qualifications emphasis on classroom experience. The minimum qualifications for adjunct faculty within the program is a college degree in the field that is greater than the students in the course, and teaching experience in the related field. The Program Director and/or the Graduate Program Coordinator determines if qualifications are met through an online application process. This has worked well as the adjunct faculty are also observed by the Program Director or a graduate faculty member each semester

Hiring and Retention

Three graduate faculty members retired since the last graduate program APR (2016) and one moved to another FSU department. The SOE has successfully hired four faculty members in the last few years; fall 2014, a faculty member in Special Education, and spring 2016, Reading & Special Education and Leadership respectively, and 2017, Early Childhood. These new faculty bring with them extensive experience from P-12 education which will help the programs remain current and grow. All were hired using a faculty committee who collaborated efficiently to interview qualified candidates and agree on a best fit for the SOE and Ferris State University. The program's ability to attract high quality candidates was demonstrated as strong during this process. The faculty who teach in the graduate program have been members of the Ferris State University faculty for a minimum of three years and a maximum of over thirty years.

Program Administration and Support

The School of Education (SOE) is part of the College of Education and Human Services (COEHS), located in Bishop Hall. This is one of three departments in the COEHS: School of Criminal Justice and School of Digital Media are the other programs. The organizational structure is located here: <https://ferris.edu/admissions/testing/factbook/FactBook17-18.pdf>

Dr. Liza Ing is the Director of the SOE, referred to as Coordinator on the organizational chart. Since joining Ferris in 2001, Dr. Ing has been a faculty member, graduate program coordinator, and previously serviced as the Interim Director of the SOE. She has graduate degrees and teaching experience in ECE and Special Education.

Dr. Arrick Jackson has been the Dean of the COEHS since July 2016. Before coming to Ferris State University Dr. Jackson was the Vice President of Community and Industry Education Services in Tarrant County College District located in Fort Worth, Texas. Dean Jackson holds degrees in Criminal Justice and Political Science.

The SOE has shifted to a team approach to curriculum and accreditation. The faculty meet to examine student performance data, share APR requirements, and communicate with the faculty from other colleges who also prepare teachers of young children. Both Dr. Ing and Dr. Jackson dedicate time and energy to the SOE as called for by the Michigan Department of Education rules.

Staff

Kimisue Worrell is the department secretary for the SOE, Secretary III. Michelle Kelenske is the Education Advisor and Vocational Authorization Officer for the SOE. Ms. Kelenske plays a major role in advising first year students. Previously, the department had an additional clerical staff member, Secretary I, but that position was lost fall 2017. The program relies on the support provided by the secretary to answer inquiries from prospective and current students. The SOE does employ student workers to assist, but the quality varies. Opportunities to improve the structure include clarifying what additional support is needed and identifying if support staff have recommendations for efficiency. Marketing the SOE programs could be extended by collaborating with Media Services, University Advancement, and off campus locations.

Support Services

FLITE is utilized by the program in a variety of ways. Kristy Motz, Education Librarian, works with faculty to provide presentations on effective use of databases for research. Students also use FLITE to access articles, books, and research assistance.

Faculty Center for Teaching and Learning serves the program needs by offering one-on-one support for faculty in Blackboard. This is useful for adjusting the gradebook, creating assessments and rubrics, and inserting new content. Faculty also utilize the Faculty Center for Teaching and Learning for professional development.

The Tutoring Center is used by some students on an as needed basis. Faculty may include the Writing Center Online Tutoring option in their syllabi or with students individually (<http://www.ferris.edu/htmls/colleges/artsands/languages-and-literature/writing-center/On-Line-Tutoring.htm>). It is a helpful service to have available in an online format as students can send their papers to writcen@ferris.edu, faculty then receive notification that a particular student used their services.

The Technology Assistance Center (TAC) is useful to faculty and students in the program. The TAC hours of operation are flexible and the center is very helpful for faculty as well. TAC assists faculty with technical issues preventing a course session, by telephone or in person.

Media Productions has been used to record teachers providing model lessons for professional development. This recording will also benefit faculty and students in the SOE as we use student teaching instruments to confirm interrater reliability.

Institutional Research Board (IRB) has been a key support service used by the program when students complete their capstone thesis or project.

The Center for Leadership, Activities and Career Services (CLACS) is utilized by the SOE for Industry Recruitment Days over the last two academic years. We are confident that attendance will increase based on faculty encouraging students to participate as well as choosing a day that is not before a holiday break. Of the current students surveyed, 94% had not used career services. Those who did use CLACS, 57% were satisfied.

Institutional Research and Testing is used by programs to reach out to graduates for their feedback on the program. Faculty use the Fact Book as a resource to monitor changes in student population and enrollment.

Educational Counseling and Disabilities Services (ECDS) is used by students who have documented disabilities that must be accommodated in the university classroom. Once students contact ECDS, faculty receive notification of the disability. All faculty syllabi include a statement for students to visit ECDS if they have or believe they have a disability which needs accommodation.

Diversity and Inclusion Office or Multicultural Student Services, the University Advancement and Marketing, and Grounds and Maintenance have not been used directly by the program.

Facilities and Equipment

The core MSCTE is offered in Flint and Big Rapids. The Advanced Graduate Certificate in TQM is offered in Grand Rapids. Elective courses in the program are also available in Travers City, Flint, Grand Rapids, and Big Rapids. Students take courses as they come available at the different locations.

Location	Classroom Space	Computer Labs	Office/Meeting Space	Storage Space Used
Big Rapids	3	0	6/2	Student files in 421 Bishop Hall
Flint	33	1	1/1	N/A
Traverse City	22	3	Available with reservation	N/A
Grand Rapids	20	4	0/1	N/A

Space

Bishop Hall is the SOE building in Big Rapids, the program has three classrooms that accommodate 25 students each, none of which are computer labs. At the Mott Memorial Building in Flint there are 33 spaces available to hold classes, one is an auditorium that holds 320 people, one is a computer lab, and the remainder of classrooms accommodate between 14 and 40 students. The University Center in Traverse City has approximately 25 classrooms, of which 3 are computer labs, with 8, 16, and 24 computers. These classrooms are shared with 6 other universities, however, according to Debbra Curtis, Director of Northern Region, since we are the largest partner, the rooms are scheduled to make sure Ferris program needs are met. The Applied Technology Center in Grand Rapids houses Ferris State University Programs. There are 20 classrooms that hold from 15-35 students at this location.

Office and meeting space is available at varying levels at each location. On the main campus each faculty member has an office space, adjunct faculty do not. There are two conference rooms available for meetings and presentations. In Flint, there is an office for Dr. Ennis and one Ferris State University conference room, others are available to reserve.

Graduate student files are held and maintained in 421 Bishop Hall in Big Rapids. There is no designated storage for M.Ed. materials at the other campus locations.

There is adequate space available at these locations for the MSCTE courses. Meeting space for classes in Grand Rapids has become a problem as the university has to rent space and security for

weekend use from Grand Rapids Community College (GRCC). Traditional graduate classes typically meet in a combination of Friday evening, all day Saturday, and Sunday which is when GRCC is closed. Some classes have been cancelled due to this expense. Positive changes that could be made would be following the rotation of graduate course offerings by locations so students could plan their programs in advance. As it currently is, the rotation is followed at some locations and not others.

Computers

Although there are no computer labs dedicated to the SOE in Bishop Hall, there is a lab that can be reserved that has 18 computer stations. Faculty may also reserve labs at FLITE. There is a computer lab at the Flint location with 36 computer stations. The Traverse City campus has 3 labs with 8, 16, and 24 respective computer stations available. In Grand Rapids there are 4 FSU computer labs that accommodate 23 students each. There is an adequate number of computers available for these options within the M.Ed. program and no recommendations for change at this time.

Equipment

The classrooms and computer labs at each location are considered Smart. This means they include a computer station with internet access and a projector for instruction. Some classrooms in Grand Rapids do not have a document camera, but one is available for reservation. Ideally, each classroom is equipped with a document camera to support visual learning.

Perkins Grant money was recently used to purchase three AQUOS interactive displays for Bishop Hall classrooms. Instructors and students on the main campus use these interactive displays. The classrooms at the off-campus sites have internet access for displaying presentations and resources.

Perceptions of Overall Quality

The mission of the graduate program in the School of Education parallels the mission College of Education and Human Services as students and graduates are challenged to work flexibly with diverse populations and guide them to become contributing citizens in their communities (<http://www.ferris.edu/htmls/colleges/educatio/coehs-links/mission-vision-assess.htm>). The School of Education also supports the expectation of integrity and life-long learning as students work to move from provisional to professional teacher certification.

A survey was sent to faculty and they were asked to report their perceptions of quality of the MSCTE. On a scale of 1-100, four faculty agreed that the MSCTE has a rating of 95/100. Faculty were also asked to provide a few strengths and opportunities for improvement

Figure 39 Faculty Perception of MSCTE Strengths and Opportunities for Improvement

Provide a few strengths of the MSCTE program	Provide a few opportunities for improvement for the MSCTE program
It provides a niche degree for career and technical education	Interstate marketing of the program
Provides professional development opportunities that are unique and unlike general academic teacher professional development	Update content within the curriculum
It provides a rung in the full ladder from associate, bachelor, masters and the transfer agreement to WMU's doctorate	Incorporate outside experts to supplement and enhance the curriculum
Assignments are practical	More collaboration with career centers
The courses are applicable to the workforce	More focus on completing first three chapters of thesis before beginning thesis/capstone courses
The program allows flexibility for different fields of education	Better advertising to undergrad students
Kitty	Market to area ISDs and tech centers
Instructor program prepares people in the field to teach	Recruit from undergrad program
Offers Training & Development option as well as secondary and post-secondary options	Make it online, with summer meetings

Figure 40 Faculty perceptions of the Advanced Graduate Certificate in TQM had an average rating of 96/100.

Provide a few strengths of the AGCTQM program	Provide a few opportunities for improvement for the AGCTQM program
Faculty member certification in the TQM and related fields	Revision of some aspects of the program
Flexible delivery of the program	Detailed marketing plan needs to be developed
Application based projects within the course	Identification of other groups of students that may have an interest. Business?
Partnership with Western Michigan University	Partner with other nearby universities
	Partner with a company to revise program courses as needed, then get the company to host the certificate for employees

Both the MSCTE and the Advanced Graduate Certificate offer courses in flexible formats where students complete hybrid courses at various campus locations. Currently, the orientation is offered through Blackboard so students can complete it without traveling to campus. For continuous improvement to occur, faculty need to continue to use student IDEA data to revise courses and update course requirements based on national teacher standards and input from area school leaders. The program can cultivate international student admissions by holding mixers to welcome and encourage communication among students and faculty.

Implementation of Findings

The graduate programs are now invested in the CAEP process for accreditation so the APR process will become redundant. They are similar in the following ways:

Figure 41 Comparison of CAEP Process for Accreditation to FSU APR Process

CAEP Standards	APR Sections
Content and Pedagogical Knowledge	Curriculum, Assessment of Learning
Clinical Partnerships and Practice	Perceptions of Overall Quality
Candidate Quality, Recruitment and Selectivity	Student Achievement
Program Impact	Program Value
Provider Quality Assurance and Continuous Improvement	Faculty Engagement, Facilities and Equipment

The program review results will be shared with stakeholders in two ways: posted on our Facebook Page and linked at the SOE website. The SOE currently has the Michigan Department Education rating posted at the website.

To address opportunities for improvement faculty will dedicate time at the program retreat in August to review APR results. This APR process lead to the creation of a preliminary graduate program strategic plan which will be integrated into the larger program strategic plan.

Program plans to promote SOE strengths include highlighting program statistics, new faculty, and graduate accomplishments on the SOE website.

Appendix A—SOE Strategic Plan

School of Education Mission

The Mission of the School of Education of Ferris State University is to prepare students for careers as quality educators whose contributions will enrich lives through dedication to leadership, life-long learning, reflection, and collaboration in the classroom, school, and greater community.

SOE Vision

The School of Education provides programs , which facilitate the development of knowledge and skills for successful professionals in an ever-changing global society. Educational opportunities that are transformative, rich with experience, grounded in assessment, and focused on the development of the whole individual so they may fully participate as life-long learners in their chosen profession.

SOE Core Values

- Teacher education must be transformative, facilitating opportunities for students to become reflective practitioners
- Teacher education should be experiential, providing diverse experiences that actively engage stakeholders
- The education of teachers must be assessment-driven, grounded in evidence-based research, resulting in data-driven decisions
- Teachers should be collaborative; affirming teaching and learning as a social process
- Learning is holistic. emphasizing the importance of the whole and the interdependence of its parts

Therefore, the SOE presents the following strategic plan to facilitate the adherence to the mission, vision, and values

PROGRAMS AND CANDIDATES

Initiative I: The SOE will provide high-quality teacher preparation education that produces competent and caring practitioners

Strategy	Actions	Time Frame	Responsible parties
The SOE will provide high-quality undergraduate education, which produces exemplary entry-level professional educators.	<ol style="list-style-type: none"> 1. Accredited programs by the MDE and CAEP 2. Programs aligned with InTASC or NAEYC 3. Graduates demonstrate competence on multiple assessments including but not limited to program assessments, MDE Survey, MTTC, and Teacher Evaluation Instruments 	3 years 1 year 1-5 years	Faculty/Administration Faculty Candidates, faculty/staff, MDE
The SOE will provide high-quality graduate education, which produces exemplary in-service professional educators.	<ol style="list-style-type: none"> 1. Accredited programs by the MDE and CAEP 	3 years 1 year 1-5 years	Faculty/Administration Faculty Candidates, faculty/staff, MDE
Prepare highly competent professionals for contemporary classrooms	<ol style="list-style-type: none"> 1. Candidates demonstrate use of best practices, 2. Candidates employ technology, differentiation, and diversity in their practice. 	1-3 years	Candidates, faculty Candidates, faculty
Data-driven assessment of candidate success and program effectiveness will be framed by a Continuous Improvement Model (CIM) of programs	<ol style="list-style-type: none"> 1. Collection of meaningful data at specific milestones of candidate education 2. Analysis of data to inform revisions, reforms, or enhancement of programs 	1-5 years 1-5 years	Faculty/Director/Dean Faculty/Administration

FACULTY: TEACHING, SERVICE, PROFESSIONAL DEVELOPMENT, AND SCHOLARSHIP

Initiative II: The School of Education will invest in the professional growth and practice of faculty through the development of effective technology enhanced learning environments and provided opportunities in faculty/staff development, mentorship, and scholarship.

Strategy	Actions	Time Frame	Responsible parties
Faculty engage in the demonstration of teaching skills to meet the needs of contemporary students/classrooms	1. SOE and the COEHS will provide technologies for teaching and learning	1-5 years	Director/Dean
	2. Faculty demonstrate effective use of technology for teaching and learning	1-5 years	Faculty/Administration
	3. Faculty demonstrate innovative best practices to meet the needs of the changing demographics of students	1-5 years	Faculty/Administration
	4. Teaching evaluations indicate student engagement and student satisfaction	1-5 years	Faculty/Administration
Faculty engage in the continued acquisition of exemplar teaching skills to improve their teaching practice	1. Faculty are provided opportunity to engage in FCTL activities and other professional development activities through time allotment and funds	1-5 years	Faculty/Administration
The SOE will assure that faculty have opportunities to engage in service to the unit, college, university, and greater learning communities	1. Faculty will be afforded time to serve	1-5 years	Faculty/Administration
	2. Faculty will serve on unit, college, university committees	1-5 years	Faculty/Administration
	3. Faculty will be active participants in partnerships through college, university and other learning community endeavors	1-5 years	Faculty/Administration
	4. Faculty will provide mentorship and counsel to partner schools	1-5 years	Faculty/Administration
Faculty engage in professional development and research to inform their practice	1. Faculty are encouraged, apply for and are funded in their professional development	1-5 years	Faculty/Administration
	2. Research that leads to relevant application to teaching, service, and scholarship is facilitated and affirmed	1-5 years	Faculty/Administration

ADVISING AND SUPPORT SERVICES

Initiative III: The School of Education provides guidance, advisement, and a sense of belonging through multiple means to assure teacher candidate success

Strategy	Actions	Time Frame	Responsible parties
SOE employs best practice recruitment and retention of students	<ol style="list-style-type: none"> 1. Faculty will develop and implement a recruitment plan that details strategies for marketing the SOE. 2. Faculty will coordinate recruitment activities with other departments in COEHS and University Recruitment Office 3. Faculty will identify new sources of scholarships for undergraduate students 4. Faculty will advise RSOs promote collaborative programming including professional education activities and social events 	<p>1-5 years</p> <p>1-5 years</p> <p>1-5 years</p>	<p>Recruitment and Retention Committee</p> <p>Faculty/Administration</p> <p>Faculty/Administration</p>
All members of the SOE team are accessible to students	<ol style="list-style-type: none"> 1. Faculty maintain office hours as prescribed by the agreement (4 hours minimum). 2. Faculty are available via telecommunications and digital means. 	<p>1-5 years</p> <p>1-5 years</p>	<p>Faculty/Administration</p> <p>Faculty/Administration</p>
The SOE will maintain quality advisement characterized by high program of completion rates, timely completion of degrees, outstanding accomplishments of students in the programs, and competitive placements of graduates.	<ol style="list-style-type: none"> 1. Curriculum changes are accessible to students and to major / minor advisors across the university. 2. Faculty share MTTC data major and minor advisors across the university each semester. 	<p>1-5 years</p> <p>1-5 years</p>	<p>Director/ Faculty</p> <p>Faculty</p>

PARTNERSHIPS AND COLLABORATION

Initiative IV: The School of Education is a leader in the initiation and sustainability of collaborative partnerships across the campus and greater learning communities

Goal	Indicators	Timeline	Responsible parties
1. The SOE will establish partnerships among the various program stakeholders at the University level.	1. SOE provides Advisory Boards for its programs that include members from the various colleges that support the SOE programs.	1 year	Director
	2. SOE collaborates with the Charter School Office (CSO) to provide professional education experiences for teachers across the state.	1-5 years	Director/Faculty
3. The SOE will establish partnerships among the various program stakeholders at the local, regional, and state levels	1. SOE will provide Advisory Boards for its programs that include members from the various colleges that support the SOE programs	1-5 years	Director
	2. The SOE will work with the MDE through advisement by both MDE personnel and SOE	1-5 years	Director/Faculty
4. The SOE will establish partnerships with K-12 districts near its campuses' programs	1. Clear articulated agreements that define the role of the district and the SOE	1-3 years	Dean/ Director/ Faculty/ Office of Field Placement
	2. Established unique opportunities and programs with area schools that provide benefits to the districts and the SOE	1-3 years	Director/ Faculty/ Office of Field Placement
	3. Restructure the Office of Field Placements to the Office of Community Partnerships, Field	2 years	Dean/Director/ Faculty/ Administrative Staff

	<p>Experiences, and Professional Development</p> <p>4. 4. Provide a variety of Professional Development opportunities to partnership schools</p>	1-5 years	Director/ Faculty/Administrative Staff
<p>3. The SOE will provide a variety of placements for candidates that will enrich their understanding of diversity</p>	<p>1. SOE maintains a variety of partnerships with schools whose demographics and circumstances provide opportunity for diverse experiences</p>	1-5 years	Director/ Faculty/Administrative Staff

Appendix B –Current Student Survey Results
2017-18 MSCTE Current Student Survey Result

Table 1
 What year do you plan to graduate?

	Instructor Option N=5	Postsecondary Administrative Option N=1	Total N=6
2019	3		3
2020			0
2021		1	1
2022	1		1
Not sure	1		1
Total	5	1	6

Table 2
 What is your current age?

	Instructor Option N=5	Postsecondary Administrative Option N=1	Total N=6
25-35	1	0	1
36-45	2	0	2
46-55	0	1	1
56-65	1	0	1
Total	4	1	5

Table 3
 What is your gender?

	Instructor Option N=5	Postsecondary Administrative Option N=1	Total N=6
Female	1	0	1
Male	3	1	4
Prefer to not respond	1		
Total	5	1	5

Table 4
 How do you classify your race or ethnic background?

	Instructor Option N=5	Postsecondary Administrative Option N=1	Total N=6
White (not Hispanic)	4	1	5
Prefer Not to Respond	1		1

	5	1	6
--	---	---	---

Table 5
Employment: In terms of your employment status, are you now:

	Instructor Option N=5	Postsecondary Administrative Option N=1	Total N=6
Teaching full-time in a school	3		3
Teaching part-time	2		2
Employed in the field of education as an administrator		1	1

Table 6

If you are working for a wage-earning job, please indicate the type of community in which your employment is located:

	Instructor Option N=5	Postsecondary Administrative Option N=1	Total N=6
Rural Area	2	0	2
City or Town (pop. 10,000 to 30,000)	0	1	1
Urban area (pop. 30,000 to 100,000)	1	0	1
Large Urban (pop. over 100,000)	1	0	1
Suburban Area	1	0	1
Total	5	1	6

Table 7

If you are working full or part time, is your place of employment:

	Instructor Option N=5	Postsecondary Administrative Option N=1	Total N=6
Public community college or university in Michigan	2	1	3
Public community college or university outside of Michigan	2	0	2
Public K-12 school in Michigan	2	0	2

Table 8

If you are employed in a private or public school, indicate the level of the institution

	Instructor Option N=5	Postsecondary Administrative Option N=1	Total N=6
Career Tech Ed serving high school students	2	0	2
College/University	0	1	1
Community College	4	0	4
Total	6	1	7

Table 9
Number of years in your present role?

	Instructor Option N=5	Postsecondary Administrative Option N=1	Total N=6
1-2 years	2	1	3
3-4 years	2	0	2
5-8 years	1	0	1
Total	5	1	6

Table 10
Number of years teaching or training experience (if appropriate)

	Instructor Option N=5	Postsecondary Administrative Option N=1	Total N=6
1-4 years	4	0	4
5-8 years	1	0	1
No teaching experience		1	1

ACADEMIC INFORMATION

Table 11
How long has it been since your last college/university course?

	Instructor Option N=5	Postsecondary Administrative Option N=1	Total N=6
More than 5 years		1	
Currently enrolled	4	0	

Table 12
What is your preferred physical location for class meetings?

	Preferred Location	Not preferred but will travel if this is only option	Will not travel to this location	Will not travel to this location and will wait until the course is offered in different location
Big Rapids	50.0%	16.7%	16.7%	16.7%
Grand Rapids	66.7%	16.7%	0.0%	16.7%
Flint	33.3%	33.3%	16.7%	16.7%
Traverse City	0.0%	16.7%	50.0%	33.3%
Lansing	33.3%	16.7%	16.7%	33.3%

SATISFACTION WITH PROGRAM

Table 13

Would you recommend FSU's MSCTE or Advanced Graduate Certificate in TQM Programs to a friend?

	Instructor Option N=5	Postsecondary Administrative Option N=1	Total N=6
Yes, without reservation	5	1	6

Table 14

Overall, how satisfied are you with your graduate experience at FSU?

	Instructor Option N=5	Postsecondary Administrative Option N=1	Total N=6
Very Satisfied	4	1	5

Table 15

How would you compare the quality of graduate education provided in this program with that of other universities/ colleges?

	Instructor Option N=5	Postsecondary Administrative Option N=1	Total N=6
Better	4	1	5
Not able to Judge	1	0	1

Table 16

What was the single most important reason for choosing Ferris's MS CTE Program and/or Advanced Graduate Certificate in TQM for Education? (Mark all that apply)

	Instructor Option N=5	Postsecondary Administrative Option N=1	Total N=6
Cost	2	1	3
Admission Standards	1	1	2
Location of Courses	3	1	4
Type of Program	4	1	5
Academic Reputation	2	0	2
Advice of Colleague	1	0	1
Convenient Schedule	3	0	3
FSU offered the IOC certification that also could count towards a masters degree	1	0	1

FUTURE PLANS

Table 17

Please mark the response that best reflects your future plans after completing the Masters Degree.

		Definitely Will	Considering it Strongly	Probably Will	Recognize the need but have no plans	Definitely Will Not
1	Enroll in graduate coursework for graduate credit to upgrade my knowledge and skills but not pursue a graduate degree at this time.	16.7%	33.3%	16.7%	0.0%	33.3%
2	Participate in non-credit experience only as required by my school district or employer.	0.0%	33.3%	16.7%	0.0%	50.0%
3	Enroll in a graduate program leading to a graduate degree on a part-time basis.	33.3%	33.3%	0.0%	0.0%	33.3%
4	Enroll in a graduate program leading to a graduate degree on a full-time basis.	0.0%	0.0%	16.7%	33.3%	50.0%
5	Enroll in Western Michigan University's Ph.D. program in Educational Leadership (cooperative degree with the FSU MSCTE program)	0.0%	33.3%	16.7%	16.7%	33.3%
6	Enroll in the Advanced Graduate Certificate in Total Quality Management (TQM) in Education	16.7%	16.7%	0.0%	33.3%	33.3%

PROGRAM RESULTS

Table 18

As a result of your completed coursework to date, to what extent do you feel you have gained or made progress in each of the following.

N=6

		Very much	Quite a bit	Some	Very little
1	Desire to make a difference for those I teach and/or work	66.7%	33.3%	0.0%	0.0%
2	To generally improve myself professionally	33.3%	66.7%	0.0%	0.0%
3	Desire to be a life-long learner	33.3%	66.7%	0.0%	0.0%
4	Ability to learn on my own, pursue ideas and find information	50.0%	50.0%	0.0%	0.0%
5	To use and interpret research and data	50.0%	33.3%	16.7%	0.0%
6	Ability to think analytically and logically	33.3%	66.7%	0.0%	0.0%
7	Writing clearly and effectively	33.3%	50.0%	16.7%	0.0%
8	Acquiring skills in using the internet	66.7%	16.7%	16.7%	0.0%
9	Acquiring computer and technology skills	66.7%	16.7%	0.0%	16.7%
10	Speaking clearly and effectively	50.0%	0.0%	33.3%	16.7%

Table 19
As a result of your completed coursework to date, to what extent do you feel you have gained or made progress in each of the following.
Aggregated by Option and Very much and Quite a Bit

		Instructor N=5	Post-secondary N=1	Total N=6
1	Desire to make a difference for those I teach and/or work	100.0%	100.0%	100.0%
2	To generally improve myself professionally	100.0%	100.0%	100.0%
3	Desire to be a life-long learner	100.0%	100.0%	100.0%
4	Ability to learn on my own, pursue ideas and find information	100.0%	100.0%	100.0%
5	To use and interpret research and data	80.0%	100.0%	83.3%
6	Ability to think analytically and logically	100.0%	100.0%	100.0%
7	Writing clearly and effectively	80.0%	100.0%	83.3%
8	Acquiring skills in using the internet	80.0%	100.0%	83.3%
9	Acquiring computer and technology skills	80.0%	100.0%	83.3%
10	Speaking clearly and effectively	40.0%	100.0%	50.0%

Table 20
We are concerned with how well you feel you were prepared to become a professional. Please indicate your level of agreement or disagreement with the following statements:
Strong Agree and Agree

		Instructor N=5	PS N=1	Total N=6
1	Most of my professors at FSU in the Master's program are good teachers.	100.0%	100.0%	100.0%
2	Earning a Master's degree will improved my income.	100.0%	100.0%	100.0%
3	The learning environment in most of the course is relaxed and supportive.	100.0%	100.0%	100.0%
4	The courses I have taken in my Master's program were helpful to me professionally.	100.0%	100.0%	100.0%
5	My program of study is appropriate in terms of meeting my professional goals.	100.0%	100.0%	100.0%
6	The office staff at Ferris is friendly and helpful.	80.0%	100.0%	83.3%
7	Most of my professors are available outside of class to help students.	100.0%	100.0%	100.0%
8	I have already implemented new teaching or work strategies as a result of my graduate coursework.	100.0%	0.0%	83.3%
9	Most of my classes in the Master's program at Ferris have been stimulating.	100.0%	100.0%	100.0%
10	I modified or changed curriculum content in the courses I teach as a result of my graduate coursework. (Check N/A if this does not relate to your current situation)	100.0%	0.0%	83.3%
11	The learning experiences in most of the courses relate to my job.	100.0%	100.0%	100.0%
12	I implemented new assessment/grading/evaluation strategies in my work as a result of my graduate coursework.	100.0%	0.0%	83.3%
13	Earning a Master's degree will contribute to a job promotion for me.	60.0%	100.0%	66.7%
14	The office staff at the extension offices is friendly and helpful.	60.0%	100.0%	66.7%
15	Once I earn my Master's degree, I will be seeking a new position.	40.0%	100.0%	50.0%
16	Courses taught by adjunct faculty have been very good.	40.0%	0.0%	33.3%

Table 21

We are concerned with how well you feel you were prepared to become a professional. Please indicate your level of agreement or disagreement with the following statements:

N=6

		Strongly agree	Agree	Disagree	Strongly Disagree
1	Most of my professors at FSU in the Master's program are good teachers.	83.3%	16.7%	0.0%	0.0%
2	Earning a Master's degree will improved my income.	66.7%	33.3%	0.0%	0.0%
3	The learning environment in most of the course is relaxed and supportive.	83.3%	16.7%	0.0%	0.0%
4	The courses I have taken in my Master's program were helpful to me professionally.	50.0%	50.0%	0.0%	0.0%
5	My program of study is appropriate in terms of meeting my professional goals.	50.0%	50.0%	0.0%	0.0%
6	The office staff at Ferris is friendly and helpful.	33.3%	50.0%	0.0%	0.0%
7	Most of my professors are available outside of class to help students.	66.7%	33.3%	0.0%	0.0%
8	I have already implemented new teaching or work strategies as a result of my graduate coursework.	66.7%	16.7%	16.7%	0.0%
9	Most of my classes in the Master's program at Ferris have been stimulating.	50.0%	50.0%	0.0%	0.0%
10	I modified or changed curriculum content in the courses I teach as a result of my graduate coursework. (Check N/A if this does not relate to your current situation)	33.3%	50.0%	16.7%	0.0%
11	The learning experiences in most of the courses relate to my job.	33.3%	66.7%	0.0%	0.0%
12	I implemented new assessment/grading/evaluation strategies in my work as a result of my graduate coursework.	50.0%	33.3%	16.7%	0.0%
13	Earning a Master's degree will contribute to a job promotion for me.	33.3%	33.3%	16.7%	16.7%
14	The office staff at the extension offices is friendly and helpful.	33.3%	33.3%	0.0%	0.0%
15	Once I earn my Master's degree, I will be seeking a new position.	33.3%	16.7%	16.7%	16.7%
16	Courses taught by adjunct faculty have been very good.	33.3%	0.0%	16.7%	0.0%

Table 22
Course Level Ratings on Quality and Importance

		How important do you perceive this course to be a MS CTE program requirement? Very High or Somewhat Important						If you have taken the course listed below, please rate the quality of the course. Very High & High Quality					
		Instructor		Post-secondary		Total		Instructor		Post-Secondary		Total	
		% Average Rating	N	% Average Rating	N	% Average Rating	N	% Average Rating	N	% Average Rating	N	% Average Rating	N
ECTE 500	Found & Organization of CTE	100.0%	4	100.0%	1	100.0%	5	100.0%	2			100.0%	2
ECTE 504	Curriculum Dev. in Career & Technical Education	100.0%	4	100.0%	1	100.0%	5	100.0%	3	100.0%	1	100.0%	4
ECTE 505	Training in Bus & Industry	100.0%	3	100.0%	1	100.0%	4						
ECTE 509	Occupational Analysis/Needs Assessment	100.0%	3	100.0%	1	100.0%	4						
ECTE 510	Evaluation in CTE	100.0%	5	100.0%	1	100.0%	6	100.0%	4			100.0%	4
ECTE 515	Workforce and Organizational Development	100.0%	4	100.0%	1	100.0%	5	100.0%	1			100.0%	1
ECTE 516	Issues in CTE	100.0%	5	100.0%	1	100.0%	6	100.0%	5	100.0%	1	100.0%	6
ECTE 591	Internship in CTE	50.0%	2	100.0%	1	66.7%	3	100.0%	1			100.0%	1
ECTE 595	Content/Instructional Workshops & Seminars/CTE	100.0%	3	100.0%	1	100.0%	4	100.0%	2			100.0%	2
ECTE 607	Instructional Systems Design and Development	100.0%	3	100.0%	1	100.0%	4	100.0%	2			100.0%	2
ECTE 610	Grant Writing and Development	75.0%	4	100.0%	1	80.0%	5	100.0%	3			100.0%	3
ECTE 650	Implementing TQM in EDUC	100.0%	4	100.0%	1	100.0%	5	100.0%	1			100.0%	1
ECTE 655	Quality Improvement Practices	100.0%	4	100.0%	1	100.0%	5	100.0%	1			100.0%	1
ECTE 660	Quality Management and Education	100.0%	3	100.0%	1	100.0%	4						
ECTE 665	Quality Metrics and Data Management	75.0%	4	100.0%	1	80.0%	5						
ECTE 694	Graduate Topics in CTE	100.0%	3	100.0%	1	100.0%	4	100.0%	2			100.0%	2
ECTE 697	Special Studies in CTE	100.0%	3	100.0%	1	100.0%	4	100.0%	1			100.0%	1
EDUC 501	Principles of Teaching & Learning	100.0%	4	100.0%	1	100.0%	5						
EDUC 508	Instruction of Exceptional Learners	100.0%	4	100.0%	1	100.0%	5	100.0%	3			100.0%	3
EDUC 663	Principles of Data-Driven Decision Making for Educators or EDUC 511 Principles of Ed Evaluation & Research	100.0%	4	100.0%	1	100.0%	5	100.0%	2			100.0%	2
EDUC 681	Capstone Project or EDUC 512 Research Field Study	100.0%	4	100.0%	1	100.0%	5	100.0%	1			100.0%	1
EDUC 518	Diversity/Classroom & Workplace	100.0%	4	100.0%	1	100.0%	5	100.0%	1			100.0%	1
EDUC 540	Educational Technology in the Classroom	100.0%	5	100.0%	1	100.0%	6	100.0%	3			100.0%	3
EDUC 560	Adv Application of Ed Tech	100.0%	3	100.0%	1	100.0%	4						
EDUC 570	Teaching/Learning Theories	66.7%	3	100.0%	1	75.0%	4	100.0%	1			100.0%	1
EDUC 630	School Law	66.7%	3	100.0%	1	75.0%	4						
EDUC 620	Adv Integrated Curriculum Design/Evaluation	100.0%	4	100.0%	1	100.0%	5	0.0%	1			0.0%	1
EDLE 500	Theories of Leadership	75.0%	4	100.0%	1	80.0%	5	100.0%	1			100.0%	1
EDLE 525	Personnel Administration & Evaluation	66.7%	3	100.0%	1	75.0%	4						
EDLE 520	Curricular Supervision	66.7%	3	100.0%	1	75.0%	4	100.0%	1			100.0%	1
EDLE 530	School Business Management or EDUC 606 Funding/Financing Educational Programs	66.7%	3	100.0%	1	75.0%	4						

Table 23
Course Delivery Ratings and Recommendations

How important do you perceive each of these to be as a requirement in the MSCTE and/or Advanced Graduate Certificate in TQM in Education programs?

As you reflect back upon your coursework, do you think we should increase, decrease or keep the same emphasis on these topics?

		% Rating Very & Somewhat Important	N	% Recommend Increase	% Recommend Stay Same	N
1	Discussing current and relevant issues in the schools during class time	100.0%	6	33.3%	66.7%	6
2	Completing relevant assignments and projects that can be used in your teaching or job	100.0%	6	66.7%	33.3%	6
3	Learning about and experiencing new teaching strategies	100.0%	6	50.0%	50.0%	6
4	Learning about new research and ways to translate the research into schools and jobs	100.0%	6	33.3%	66.7%	6
5	Using professor-developed course packs and materials	83.3%	6	20.0%	80.0%	5
6	Using internet-based materials	83.3%	6	16.7%	83.3%	6
7	Completing assignments as a team rather than an individual during class time.	50.0%	6	20.0%	60.0%	5
8	Making presentations to the class	50.0%	6	20.0%	40.0%	5
9	Conducting research	83.3%	6	33.3%	33.3%	6
10	Completing and submitting assignment on the internet	83.3%	6	16.7%	83.3%	6
11	Participating in field trips or assignments that require you to work in or visit a business and industry	33.3%	6	20.0%	40.0%	5
12	Using the library to look up information.	50.0%	6	0.0%	66.7%	6
13	Using the internet to look up information.	83.3%	6	33.3%	66.7%	6
14	Writing term papers, reports, and other writing assignments	66.7%	6	16.7%	50.0%	6
15	Participating in field trips or assignments that require you to work in or visit a model school	50.0%	6	20.0%	40.0%	5
16	Completing cooperative and team learning projects outside of the classroom	50.0%	6	20.0%	40.0%	5

Appendix C—Alumni Survey Results
2017-18 MSCTE Alumni Survey Result

Table 1
What year did you graduate from the MS CTE program and in which option?

	Instructor Option N=9	Postsecondary Administrative Option N=4	Training & Development Option N=4	Total N=17	Adv. Graduate Certificate in TQM
2013	4	1	1	6	1
2014	1	0	0	1	
2015	1	0	2	3	
2016	1	0	1	2	
2017	1	3	0	4	
2018	1	0	0	1	
Total	9	4	4	17	1

Table 2
What is your current age?

	Instructor Option N=9	Postsecondary Administrative Option N=4	Training & Development Option N=4	Total N=17
25-35	1	1	2	4
36-45	4	2	1	7
46-55	3	1	1	5
56-65	1			1

Table 3
What is your gender?

	Instructor Option N=9	Postsecondary Administrative Option N=4	Training & Development Option N=4	Total N=17
Female	4	1	2	7
Male	4	3	2	9
Prefer to not respond	1			1

Table 4
How do you classify your race or ethnic background?

	Instructor Option N=9	Postsecondary Administrative Option N=4	Training & Development Option N=4	Total N=17
White (not Hispanic)	8	3	3	14
Other Race		1	1	2
Prefer Not to Respond	1			1

Table 5
Employment: In terms of your employment status, are you now:

	Instructor Option N=9	Postsecondary Administrative Option N=4	Training & Development Option N=4	Total N-17
Teaching full-time in a school	8	1	1	10
Employed in a training department within an organization, business or industry			1	1
Employed in the field of education as an administrator		2	2	4
Full time advisor teaching two sections of seminar each fall	1			1
Full time, not going to teach, more for manger skills		1		1

Table 6

If you are working for a wage-earning job, please indicate the type of community in which your employment is located:

	Instructor Option N=9	Postsecondary Administrative Option N=4	Training & Development Option N=4	Total N-17
Rural Area			1	1
City or Town (pop. 10,000 to 30,000)	6	2	1	9
Urban area (pop. 30,000 to 100,000)	3	1		4
Large Urban (pop. over 100,000)		1	2	3

Table 7

If you are working full or part time, is your place of employment:

	Instructor Option N=9	Postsecondary Administrative Option N=4	Training & Development Option N=4	Total N-17
Private or charter school or college/university in Michigan	1		1	2
Public community college or university in Michigan	6	3	0	9
Public community college or university outside of Michigan			1	1
Public K-12 school in Michigan	1	1	1	3

Table 8

If you are employed in a private or public school, indicate the level of the institution

	Instructor Option N=9	Postsecondary Administrative Option N=4	Training & Development Option N=4	Total N-17
Career Tech Ed serving high school students	1			1
Outside USA			1	1
College/University	5	3	2	7
Community College	2			2
Vocational or Technical School	1	1	1	3

Table 9
Number of years in your present role?

	Instructor Option N=9	Postsecondary Administrative Option N=4	Training & Development Option N=4	Total N-17
Less than 1 year		1	1	2
1-2 years			1	1
3-4 years	4	1	1	6
5-8 years	2	1		3
9 or more years	3	1	1	5

Table 10
Number of years teaching or training experience (if appropriate)

	Instructor Option N=9	Postsecondary Administrative Option N=4	Training & Development Option N=4	Total N-17
Less than 1 year		1		1
1-4 years	1	1		2
5-8 years	2		1	3
9-12 years	4		3	7
13 or more years	2	1		3
No teaching experience		1		1

ACADEMIC INFORMATION

Table 11
How long did it take you to complete the MS CTE program?

	Instructor Option N=9	Postsecondary Administrative Option	Training & Development Option	Total N-17
--	--------------------------	-------------------------------------	-------------------------------	---------------

		N=4	N=4	
One year			2	2
Two Years	3	2	1	6
Three Years	3	1		4
Four Years	2		1	3
More than 5 years	1	1		2

Table 12
Current Highest Degree Earned:

	Instructor Option N=9	Postsecondary Administrative Option N=4	Training & Development Option N=4	Total N-17
Master's	9	4	3	16
Ph.D.			1	1
Currently enrolled in Ph.D.	1			1

Table 13
How long has it been since your last college/university course?

	Instructor Option N=9	Postsecondary Administrative Option N=4	Training & Development Option N=4	Total N-17
1-4 years	5	2	2	9
Less than 1 year	1	1	2	4
More than 5 years	1	1	2	4
Currently enrolled	2			2

Table 14
What was your enrollment status while attending FSU's program?

	Instructor Option N=9	Postsecondary Administrative Option N=4	Training & Development Option N=4	Total N-17
1 or 2 courses per semester	7	3	2	12
Primarily full-time (9 credits or more per semester)		1	2	3
Only 1 course per semester	2			2

Table 15
Which location did you attend face-to-face classes during your program?

	All of my classes	Most or many of my classes	A few of my classes	Never attended classes in this location

Big Rapids	17.6%	52.9%	29.4%	0.0%
Grand Rapids	0.0%	12.5%	43.8%	43.8%
Flint	0.0%	6.7%	20.0%	73.3%
Traverse City	0.0%	6.3%	31.3%	62.5%
Lansing	0.0%	0.0%	0.0%	100.0%

Table 16

If you have earned the Advanced Graduate Certification in TQM in Education, how did you complete it?

	Instructor Option N=9	Postsecondary Administrative Option N=4	Training & Development Option N=4	Total N-17
I have not taken the courses for the TQM certificate.	6	4	1	11
I complete the courses for the certificate after I finished the MSCTE degree.	1			1
I took some TQM courses but did not complete cert			1	1

SATISFACTION WITH PROGRAM

Table 17

Would you recommend FSU's MSCTE or Advanced Graduate Certificate in TQM Programs to a friend?

	Instructor Option N=9	Postsecondary Administrative Option N=4	Training & Development Option N=4	Total N-17
Yes, without reservation	88.9%	75.0%	50.0%	76.5%
Yes, with reservation	11.1%	25.0%	50.0%	23.5%

Table 18

Overall, how satisfied are you with your graduate experience at FSU?

	Instructor Option N=9	Postsecondary Administrative Option	Training & Development Option	Total N-17
--	----------------------------------	--	--	-----------------------

		N=4	N=4	
Very Satisfied	77.8%	50.0%	75.0%	70.6%
Satisfied	11.1%	50.0%	25.0%	23.5%
Dissatisfied	11.1%			5.9%

Table 19
How would you compare the quality of graduate education provided in this program with that of other universities/ colleges?

	Instructor Option N=9	Postsecondary Administrative Option N=4	Training & Development Option N=4	Total N-17
Better	3		4	7
About the Same		2		2
Not able to Judge	6	2		8

Table 20
What was the single most important reason for choosing Ferris's MS CTE Program and/or Advanced Graduate Certificate in TQM for Education? (Mark all that apply)

Red indicates column sorted descending order

	Instructor Option N=9	Postsecondary Administrative Option N=4	Training & Development Option N=4	Total N-17
Type of Program	3	3	2	8
Convenient Schedule	3	3	1	7
Cost	5	0	1	6
Location of Courses	3	2	1	6
Academic Reputation	3	3		6
Advice of Colleagues	3			3
Admission Standards	1	1		2
on-line based with a few weekends worked for my schedule.	1			1
Talking with Katherine Manley. She understood my career vision and communicated how the program could help me achieve my professional goals.			1	1
This degree was the most relevant degree to higher education leadership offered at Ferris.		1		1
Time	1			1

FUTURE PLANS

Table 21
What is the highest degree you plan to earn?

	Instructor Option N=9	Postsecondary Administrative Option N=4	Training & Development Option N=4	Total N=17
Ph.D. or Ed.D.	3		4	7
Not seeking degree beyond Master's	4	3		7
Uncertain	2			2
Ed. Specialist		1		1
Not going for Ph.D. not needed in my field, but I am go for a second master's from Ferris		1		1

Table 22
The items below address your plans for continued professional development. Please mark the response that best reflected your plans since completing the Master's Degree or Advanced Graduate Certificate.

		Definitely Will	Considering it Strongly	Probably Will	Recognize the need but have no plans	Definitely Will Not
1	Enroll in additional graduate coursework for graduate credit to upgrade my knowledge and skills but not pursue a graduate degree at this time.	17.6%	11.8%	23.5%	35.3%	11.8%
2	Participate in non-credit experience only as required by my school district or employer.	29.4%	5.9%	47.1%	5.9%	11.8%
3	Enroll in a graduate program leading to an additional graduate degree on a part-time basis.	11.8%	17.6%	0.0%	41.2%	29.4%
4	Enroll in a graduate program leading to an additional graduate degree on a full-time basis.	11.8%	5.9%	11.8%	23.5%	47.1%

Table 23
Please respond to this question regarding your plans for the Advanced Certificate in TQM in Education

	Instructor Option N=9	Postsecondary Administrative Option N=4	Training & Development Option N=4	Total N=17
I already have earned or am working on this certificate.	1			1
I am not familiar with this Advanced Graduate Certificate.	2	1	1	4
I do not have plans to complete this certificate.	2	1	1	4
I would like to complete this certificate in the future.	2	2	2	6

PROGRAM RESULTS

Table 24
As a result of your graduate program, to what extent do you feel you have gained or made progress in each of the following.

		Very much	Quite a bit	Some	Very little
1	Desire to make a difference for those I teach and/or work	88.2%	0.0%	11.8%	0.0%
2	To generally improve myself professionally	94.1%	5.9%	0.0%	0.0%
3	Desire to be a life-long learner	64.7%	11.8%	11.8%	11.8%
4	Ability to learn on my own, pursue ideas and find information	64.7%	23.5%	5.9%	5.9%
5	To use and interpret research and data	47.1%	41.2%	0.0%	11.8%
6	Ability to think analytically and logically	52.9%	35.3%	11.8%	0.0%
7	Writing clearly and effectively	52.9%	23.5%	23.5%	0.0%
8	Acquiring skills in using the internet	29.4%	47.1%	17.6%	5.9%
9	Acquiring computer and technology skills	17.6%	35.3%	35.3%	11.8%
10	Speaking clearly and effectively	41.2%	23.5%	35.3%	0.0%

Table 25

**As a result of your graduate program, to what extent do you feel you have gained or made progress in each of the following.
Aggregated by Option and Very much and Quite a Bit**

		Instructor	Post-secondary	Training & Development	Total
1	Desire to make a difference for those I teach and/or work	88.9%	75.0%	100.0%	88.2%
2	To generally improve myself professionally	100.0%	100.0%	100.0%	100.0%
3	Desire to be a life-long learner	66.7%	75.0%	100.0%	76.5%
4	Ability to learn on my own, pursue ideas and find information	77.8%	100.0%	100.0%	88.2%
5	To use and interpret research and data	77.8%	100.0%	100.0%	88.2%
6	Ability to think analytically and logically	88.9%	100.0%	75.0%	88.2%
7	Writing clearly and effectively	88.9%	75.0%	50.0%	76.5%
8	Acquiring skills in using the internet	88.9%	75.0%	50.0%	76.5%
9	Acquiring computer and technology skills	66.7%	25.0%	50.0%	52.9%
10	Speaking clearly and effectively	77.8%	50.0%	50.0%	64.7%

Table 26

We are concerned with how well you feel you were prepared to become a professional. Please indicate to which you agree or disagree with the following statements:
Strong Agree and Agree

		Instructor	PS	TD	Total
1	Most of my professors at FSU in the Master's program were good teachers.	100.0%	100.0%	100.0%	100.0%
2	The Master's degree has improved my income.	100.0%	75.0%	75.0%	88.2%
3	The learning environment in most of the course was relaxed and supportive.	100.0%	100.0%	100.0%	100.0%
4	The courses I took in my Master's program were helpful to me professionally.	88.9%	100.0%	100.0%	94.1%
5	My program of study was appropriate in terms of meeting my professional goals.	100.0%	100.0%	100.0%	100.0%
6	The office staff at Ferris was friendly and helpful.	100.0%	100.0%	75.0%	93.3%
7	Most of my professors were available outside of class to help students.	100.0%	100.0%	100.0%	100.0%
8	I implemented new teaching or workforce development strategies in my job as a result of my graduate coursework.	88.9%	100.0%	100.0%	94.1%
9	Most of my classes in the Master's program at Ferris were stimulating.	88.9%	100.0%	100.0%	94.1%
10	I modified or changed curriculum content in the courses I teach as a result of my graduate coursework. (Mark N/A if you don't currently teach)	88.9%	100.0%	100.0%	93.8%
11	The learning experiences in most of the courses related to my job.	88.9%	75.0%	100.0%	88.2%
12	I implemented new assessment/grading/evaluation strategies in my job as a result of my graduate coursework.	88.9%	100.0%	100.0%	93.3%
13	The Master's degree has contributed to a job promotion for me.	87.5%	33.3%	100.0%	80.0%
14	The office staff at the extension offices was friendly and helpful.	100.0%	100.0%	100.0%	100.0%
15	Since earning my Master's degree, I have or will be seeking a new position.	75.0%	100.0%	100.0%	85.7%
16	Courses taught by adjunct faculty were very good.	100.0%	66.7%	100.0%	88.9%

Table 27

We are concerned with how well you feel you were prepared to become a professional. Please indicate to which you agree or disagree with the following statements:

		Strongly agree	Agree	Disagree	Strongly Disagree
1	Most of my professors at FSU in the Master's program were good teachers.	94.1%	5.9%	0.0%	0.0%
2	The Master's degree has improved my income.	82.4%	5.9%	11.8%	0.0%
3	The learning environment in most of the course was relaxed and supportive.	64.7%	35.3%	0.0%	0.0%
4	The courses I took in my Master's program were helpful to me professionally.	52.9%	41.2%	5.9%	0.0%
5	My program of study was appropriate in terms of meeting my professional goals.	52.9%	47.1%	0.0%	0.0%
6	The office staff at Ferris was friendly and helpful.	73.3%	20.0%	6.7%	0.0%
7	Most of my professors were available outside of class to help students.	70.6%	29.4%	0.0%	0.0%
8	I implemented new teaching or workforce development strategies in my job as a result of my graduate coursework.	70.6%	23.5%	0.0%	5.9%
9	Most of my classes in the Master's program at Ferris were stimulating.	41.2%	52.9%	0.0%	5.9%
10	I modified or changed curriculum content in the courses I teach as a result of my graduate coursework. (Mark N/A if you don't currently teach)	50.0%	43.8%	0.0%	6.3%
11	The learning experiences in most of the courses related to my job.	41.2%	47.1%	0.0%	11.8%
12	I implemented new assessment/grading/evaluation strategies in my job as a result of my graduate coursework.	53.3%	40.0%	0.0%	6.7%
13	The Master's degree has contributed to a job promotion for me.	53.3%	26.7%	13.3%	6.7%
14	The office staff at the extension offices was friendly and helpful.	90.0%	10.0%	0.0%	0.0%
15	Since earning my Master's degree, I have or will be seeking a new position.	64.3%	21.4%	14.3%	0.0%
16	Courses taught by adjunct faculty were very good.	44.4%	44.4%	11.1%	0.0%

Table 28
Course Level Ratings on Quality and Importance
(Red indicates column sorted descending order)

		Very High or High-Quality Rating								Very and Somewhat Important							
		Instructor		PS		T&D		Total		Instructor		PS		TD		Total	
		% Average Rating	N	% Average Rating	N	% Average Rating	N	% Average Rating	N	% Average Rating	N	% Average Rating	N	% Average Rating	N	% Average Rating	N
ECTE 500	Found & Organization of CTE	100.0%	5	100.0%	2		0	100.0%	7	100.0%	6	100.0%	2	100.0%	4	100.0%	12
ECTE 505	Training in Bus & Industry	100.0%	3	100.0%	1	100.0%	3	100.0%	7	100.0%	5	100.0%	2	100.0%	4	100.0%	11
ECTE 509	Occupational Analysis/Needs Assessment	100.0%	2	100.0%	1	100.0%	4	100.0%	7	100.0%	5	100.0%	2	100.0%	4	100.0%	11
ECTE 660	Quality Management and Education	100.0%	3	100.0%	1		0	100.0%	4	100.0%	5	100.0%	1	66.7%	3	88.9%	9
ECTE 665	Quality Metrics and Data Management	100.0%	3	100.0%	1	100.0%	1	100.0%	5	100.0%	5	100.0%	1	50.0%	2	87.5%	8
EDUC 620	Adv Integrated Curriculum Design/Evaluation	100.0%	6	100.0%	3	100.0%	4	100.0%	13	100.0%	8	100.0%	2	100.0%	4	100.0%	14
EDUC 681	Capstone Project or EDUC 512 Research Field Study	88.9%	9	100.0%	4	100.0%	3	93.8%	16	100.0%	9	100.0%	4	100.0%	3	100.0%	16
ECTE 510	Evaluation in CTE	100.0%	8	75.0%	4	100.0%	2	92.9%	14	100.0%	9	100.0%	4	100.0%	4	100.0%	17
EDUC 663	Principles of Data-Driven Decision Making for Educators or EDUC 511 Principles of Ed Evaluation & Research	100.0%	6	100.0%	4	75.0%	4	92.9%	14	100.0%	9	100.0%	4	100.0%	4	100.0%	17
EDUC 570	Teaching/Learning Theories	75.0%	4	100.0%	1	100.0%	2	85.7%	7	100.0%	6	100.0%	2	100.0%	4	100.0%	12
ECTE 595	Content/Instructional Workshops & Seminars/CTE	100.0%	3	50.0%	2	100.0%	1	83.3%	6	100.0%	4	100.0%	2	100.0%	2	100.0%	8
EDUC 630	School Law	66.7%	3	100.0%	3		0	83.3%	6	100.0%	5	100.0%	3	50.0%	2	90.0%	10
ECTE 504	Curriculum Dev. in Career & Technical Education	100.0%	6	66.7%	3	50.0%	2	81.8%	11	100.0%	6	100.0%	3	100.0%	3	100.0%	12
ECTE 516	Issues in CTE	85.7%	7	75.0%	4		0	81.8%	11	100.0%	8	100.0%	4	100.0%	2	100.0%	14
ECTE 515	Workforce and Organizational Development	100.0%	3	50.0%	2		0	80.0%	5	100.0%	6	100.0%	2	100.0%	3	100.0%	11
EDUC 508	Instruction of Exceptional Learners	85.7%	7	50.0%	2	100.0%	1	80.0%	10	100.0%	7	100.0%	2	100.0%	2	100.0%	11
EDLE 530	School Business Management or EDUC 606 Funding/Financing Educational Programs	100.0%	1	100.0%	3	0.0%	1	80.0%	5	100.0%	3	100.0%	3	50.0%	2	87.5%	8
EDUC 518	Diversity/Classroom & Workplace	100.0%	2	75.0%	4	66.7%	3	77.8%	9	80.0%	5	100.0%	4	75.0%	4	84.6%	13
ECTE 591	Internship in CTE	75.0%	4	50.0%	2	100.0%	2	75.0%	8	100.0%	6	100.0%	2	100.0%	3	100.0%	11
ECTE 607	Instructional Systems Design and Development	100.0%	2	0.0%	1	100.0%	1	75.0%	4	100.0%	5	100.0%	2	100.0%	2	100.0%	9
ECTE 610	Grant Writing & Development	100.0%	2	50.0%	2		0	75.0%	4	66.7%	6	100.0%	3	100.0%	2	81.8%	11
ECTE 655	Quality Improvement Practices	100.0%	2	0.0%	1	100.0%	1	75.0%	4	100.0%	5	100.0%	1	100.0%	2	100.0%	8
ECTE 694	Graduate Topics in CTE	100.0%	1	50.0%	2	100.0%	1	75.0%	4	100.0%	4	100.0%	2	66.7%	3	88.9%	9
EDLE 520	Curricular Supervision	100.0%	1	66.7%	3		0	75.0%	4	100.0%	4	100.0%	3	50.0%	2	88.9%	9
ECTE 650	Implementing Total Quality Management in Education	75.0%	4	0.0%	1	100.0%	2	71.4%	7	100.0%	6	100.0%	1	100.0%	3	100.0%	10
EDLE 500	Theories of Leadership	66.7%	3	50.0%	4	100.0%	2	66.7%	9	75.0%	4	100.0%	4	100.0%	4	91.7%	12
ECTE 697	Special Studies in CTE	100.0%	2	0.0%	1		0	66.7%	3	66.7%	3	100.0%	2	50.0%	2	71.4%	7
EDLE 525	Personnel Administration & Evaluation	100.0%	1	50.0%	4		0	60.0%	5	100.0%	4	100.0%	4	100.0%	2	100.0%	10
EDUC 540	Educational Technology in the Classroom	66.7%	6	25.0%	4	50.0%	2	50.0%	12	100.0%	7	100.0%	4	100.0%	4	100.0%	15
EDUC 560	Adv Application of Ed Tech	100.0%	1	0.0%	1		0	50.0%	2	75.0%	4	100.0%	2	50.0%	2	75.0%	8

Table 29
Course Delivery Ratings and Recommendations
(Red indicates column sorted descending order)

		Instructor					Post-Secondary Administration					Training and Development					Total				
		% Rating Very & Somewhat Important	N	% Recommended Increase	% Recommended Decrease	N	% Rating Very & Somewhat Important	N	% Recommended Increase	% Recommended Decrease	N	% Rating Very & Somewhat Important	N	% Recommended Increase	% Recommended Decrease	N	% Rating Very & Somewhat Important	N	% Recommended Increase	% Recommended Decrease	N
1	Discussing current and relevant issues in the schools during classtime	100.0%	9	44.4%	0.0%	9	100.0%	4	25.0%	0.0%	4	100.0%	4	25.0%	0.0%	4	100.0%	17	35.3%	0.0%	17
2	Completing relevant assignments and projects that can be used in your teaching or job	100.0%	9	55.6%	0.0%	9	100.0%	4	25.0%	0.0%	4	100.0%	4	0.0%	0.0%	4	100.0%	17	35.3%	0.0%	17
5	Using professor-developed coursepacks and materials	100.0%	9	11.1%	0.0%	9	100.0%	4	25.0%	0.0%	4	100.0%	4	25.0%	0.0%	4	100.0%	17	17.6%	0.0%	17
6	Using internet based materials	100.0%	9	22.2%	0.0%	9	100.0%	4	25.0%	0.0%	4	100.0%	4	25.0%	25.0%	4	100.0%	17	23.5%	5.9%	17
10	Completing and submitting assignment on the internet	100.0%	9	22.2%	0.0%	9	100.0%	4	25.0%	0.0%	4	100.0%	4	25.0%	0.0%	4	100.0%	17	23.5%	0.0%	17
13	Using the internet to look up information.	100.0%	9	22.2%	11.1%	9	100.0%	4	0.0%	0.0%	4	100.0%	4	20.0%	20.0%	5	100.0%	17	16.7%	11.1%	18
3	Learning about and experiencing new teaching strategies	100.0%	9	44.4%	0.0%	9	75.0%	4	50.0%	0.0%	4	100.0%	4	25.0%	0.0%	4	94.1%	17	41.2%	0.0%	17
4	Learning about new research and ways to translate the research into schools and jobs	88.9%	9	22.2%	0.0%	9	100.0%	4	25.0%	0.0%	4	100.0%	4	50.0%	0.0%	4	94.1%	17	29.4%	0.0%	17
9	Conducting research	77.8%	9	11.1%	22.2%	9	100.0%	4	25.0%	0.0%	4	100.0%	4	25.0%	0.0%	4	88.2%	17	17.6%	11.8%	17
14	Writing term papers, reports, and other writing assignments	87.5%	8	0.0%	0.0%	8	100.0%	4	0.0%	0.0%	4	75.0%	4	0.0%	0.0%	3	87.5%	16	0.0%	0.0%	15

		Instructor					Post-Secondary Administration					Training and Development					Total				
		% Rating Very & Somewhat Important	N	% Recommend Increase	% Recommended Decrease	N	% Rating Very & Somewhat Important	N	% Recommend Increase	% Recommended Decrease	N	% Rating Very & Somewhat Important	N	% Recommend Increase	% Recommended Decrease	N	% Rating Very & Somewhat Important	N	% Recommend Increase	% Recommended Decrease	N
12	Using the library to look up information.	85.7%	7	11.1%	11.1%	9	75.0%	4	0.0%	25.0%	4	100.0%	4	0.0%	0.0%	4	86.7%	15	5.9%	11.8%	17
15	Participating in field trips or assignments that require you to work in or visit a model school	80.0%	5	22.2%	0.0%	9	50.0%	4	0.0%	0.0%	4	100.0%	4	25.0%	0.0%	4	76.9%	13	17.6%	0.0%	17
8	Making presentations to the class	77.8%	9	0.0%	22.2%	9	75.0%	4	0.0%	0.0%	4	75.0%	4	0.0%	0.0%	4	76.5%	17	0.0%	11.8%	17
11	Participating in field trips or assignments that require you to work in or visit a business and industry	75.0%	4	11.1%	0.0%	9	50.0%	4	0.0%	0.0%	4	100.0%	4	50.0%	0.0%	4	75.0%	12	17.6%	0.0%	17
16	Completing cooperative and team learning projects outside of the classroom	75.0%	8	0.0%	22.2%	9	75.0%	4	0.0%	25.0%	4	75.0%	4	0.0%	25.0%	4	75.0%	16	0.0%	23.5%	17
17	Completing assignments as a team rather than an individual during classtime.	77.8%	9	0.0%	22.2%	9	75.0%	4	0.0%	0.0%	4	50.0%	4	0.0%	25.0%	4	70.6%	17	0.0%	17.6%	17

Appendix D—Course Syllabi

Syllabi will be provided as requested.

Appendix E—MSCTE students earning Doctorate Degrees

		FSU-MSCTE Degree Earned and Data	Current or Former Position	Doctorate Year Earned and University	Dissertation Title
1	Arnold, Justin	August 2013, MSCTE – Training & Development	Assistant Extension Educator, University of Nebraska-Lincoln,	2017 Western Michigan University	“A Phenomenology of Calling Among Undergraduates at a Public University: Reliance on Belief During an Intentional Decision-Making Process.”
2	Dawson, James L.	August, 2009 MSCTE-Instructor	Michigan Department of Corrections	2017 Western Michigan University	“Justice Involved Veterans’ Post-Release Employment-Related Experiences”
3	Allen, Patricia L.	1996, MSCTE	Assistant Professor, School of Health Sciences, Ivy Tech Community College, Southern Indiana	2014, Western Michigan University, Educational Leadership, Research and Technology, Defense Date, July 20, 2014.	“Career and Technical Education and the Malcolm Baldrige Quality Award in Education,”
4	Kain, Karen	1997, MSCTE Instructor, 2005 Advanced Graduate Certificate in TQM	Pulmonary Education Specialist, Munson Medical Center	2010, Western Michigan University, Teaching, Learning and Leadership, Defense Date, November 1, 2010	“Determining Characteristics that Increase Success on the National Asthma Educator Certification Exam,”
5	Feutz, Michael J.	2001, MSCTE Administration	Professor, Ferris State University	2010, Western Michigan University, Educational Leadership, Research and Technology, Defense Date October 11, 2010	“The Phenomenology of the Bachelor of Science in HVAC Engineering Technology from Ferris State University,”
6	Gaunt, David P	2003, Advanced Graduate Certificate in TQM	Professor, Western Michigan University and Baker College	2005, Western Michigan University, Teaching, Learning and Leadership, Defense, May 6, 2005	“High School Seniors’ Perceptions of Career and Technical Education and Factors Influencing their Decision to Attend an Area Career Technical Center”
7	Wojciechowski, Amy J	1993, MSCTE, Instructor	Professor Emeritus— Business Division	2004, Western Michigan University, Teaching, Learning and Leadership Defense Date: September 10, 2004	“The Relationship Between Student Characteristics and Success in an Online Business Course at West Shore Community College,”
8	Schultz, Debra Scott	1992, MSOE, Instructor	Professor, Grand Rapids Community College, Dental Auxiliary	2004, Western Michigan University, Teaching, Learning and Leadership, Defense Date: September 20, 2004	“A Model for Using the National Board Dental Hygiene Examination Results as a Method of Outcomes Assessment,”
9	Flowers, Kenneth W.	2004, MSCTE Administration 2007, Advanced Graduate Certificate TQM	Department Chair Technologies, Lake Michigan College	2015, Western Michigan University	“A partnership Between a Midwest Community College and the Highly Regulated Power Production Industry: A Case Study Regarding the Development of an Energy Production Technology Production Technology Program”

10	Martel, Michael A	2011, MSCTE Administration 2012, Advanced Graduate Certificate TQM	Placement Director, GASC Technologies Center—Flint	2015, Western Michigan University	“Perceptions of Teacher Evaluation Systems at CTE Centers in Michigan.”
11	Briggs, Lianne	1998, MSCTE Instructor	Professor, Ferris State University, Hospitality Management	2012, Western Michigan University	“Student Success: An Investigation of the Role the Pre-Admission Variables of Academic Preparation, Personal Attributes, and Demographic Characteristics Contributed in Predicting Graduation”
12	Cotton-Flanagan, Kymberli	1997, MSCTE	Secchia Institute for Culinary Education	2011, Western Michigan University	“A Study on Becoming an Alternatively Certified Career and Technical Educator”
13	Compton, Suzette S.	1988, MSOE	Senior Customer Relations Manager Ellucian	2005, Western Michigan University	“The Salary negotiation Strategies of Female Administrators in Higher Education”
14	Foster, Nancy	2003 MSCTE Educational Technology	Chief Academic Officer, Baker College of Cadillac	Western Michigan University	“Alignment of Mission Statements with Hiring and Evaluating Progresses at Higher Education Institutions Approved by the Academic Quality Improvement program”
15	Parker, Annette	2001, MSCTE Instructor	President of South Central College	2012, Western Kentucky University	“Key Factors and Stages of Collaboration between Community Colleges and the Automotive Industry Sector Partnerships.”
16	Manley, Robert Adam	2003 MSCTE Educational Technology	Associate Professor, Western Michigan University	2010, Virginia Tech	“The Intended and Unintended Consequences of the 1990 Carl D. Perkins Vocational and Applied Technology Act Within-State Funding Formula Change: A modified Policy Delphi Study”
17	Pohja, Karen	2003, Advanced Graduate Certificate in TQM			
18	Macquarrie, David L.	1999, MSCTE, Instructor	Michigan Department of Education, Educational Researcher and Assessment Developer	2005 Ph.D. Western Michigan University	Automotive Service Technology Intersectional Skills Proficiency Assessment
19	Lightner, John	1992, MSOE, Administration	Chair, Media, Art, and Information Technologies Dept., Lansing Community College		
20	Schumann, Rachel	1986, MSOE	State Vision Coordinator, Public Health, Michigan Department of	1993, Michigan State University, College and University Administration	An Analysis of Charitable Giving Practices of Recent Optometry

			Health & Human Services		Alumni at Selected Institutions and Their Alumni Donor Support
21	Octernaud, Sharon K.	1988, MSOE	Director, Media Production & Distribution	1992, Nova Southeastern University, Program for Higher Education Abraham S. Fischler Center for the Advancement of Education	
22	Barnes, Yolonda	2004, MSCTE Administration	Program Chair, Administrative Support College of Western Idaho, ID	2015 Ed.D. DCCL Ferris	Chief Development Officers in the Community College: Their Competencies, Characteristics, and Professional Skills from the Perspective of Presidents, Chief Academic Officers, and Chief Development Officers
23	Chaney, Matthew C.	2003, MSCTE Administration	<i>Director, Office of Multicultural Student Services Ferris State University, MI</i>	2018, Ed.D., DCCL Ferris	
24	Flint, Ann	1991, MSOE	<i>Coordinator, Respiratory Care Program Jackson Community College, MI</i>	2014, Ed.D. DCCL Ferris	An Analysis of Improving Science Success at a Multi-Campus Community College Through Mentoring
25	Spohr, Robert A.	2006, MSCTE Instructor	<i>Vice President, Academic and Student Affairs Montcalm Community College, MI</i>	Not yet, DCCL	
26	Darrow, David J..	2002, MSCTE. Educational Technology	<i>Director of Student Academic Affairs, College of Education and Human Services Ferris State University, MI</i>	Not yet, DCCL	
27	D'Avignon, Patricia L.	2014 MSCTE Administration 2014, Advanced Graduate Certificate TQM	<i>Director of Student Success Muskegon Community College, MI</i>	Not Yet, DCCL	
28	Wanink, Daniel C.	2004, MSCTE Administration	<i>Associate Professor, CAD, Drafting, and Tool Design Ferris State University, MI</i>	Not Yet, DCCL	

29	Erickson, Niccole L.	2015 MSCTE Instructor	<i>Assistant professor Ferris State University</i>	Not Yet, Central Michigan University	
30	Koepf, Tina	2006, MSCTE Instructor 2009 Advanced Graduate Certificate in TQM	<i>Program Manager, NOCTI</i>	Not Yet, Western Michigan University	

APPENDIX F VITAE Katherine Manley

KATHERINE KELLY MANLEY

Office Address

Professor
College of Education & Human
Services
Ferris State University
419 Bishop Hall
Big Rapids, MI 49307
231-591-2726 (office)
231-591-3792 (FAX)
e-mail: manleyk@ferris.edu

Home Address

17928 River Bluff Dr
Big Rapids, MI 49307
231-796-4216
231-796-3068 (FAX)
e-mail: drkittyfsu@yahoo.com

EDUCATION

Virginia Polytechnic Institute and State University, Blacksburg, VA.
Doctor of Education in Vocational and Technical Education, June, 1981.

Virginia Polytechnic Institute and State University, Blacksburg, VA.
Certificate of Advanced Graduate Study (CAGS) in Vocational and Technical Education, June, 1980.

Florida Atlantic University, Boca Raton, FL. Master of Education in Curriculum and Instruction with concentration in Business Education, August, 1974.

Florida Atlantic University, Boca Raton, FL. Bachelor of Science in Business Education, December, 1970.

Concord College, Athens, WV. Began work toward Bachelor of Science in Business Education

PROFESSIONAL EXPERIENCE

Ferris State University, Big Rapids, MI.
Professor-Graduate Programs, November, 1984 to present.

Provide leadership for a graduate program in Career & Technical Education. Developed and teach graduate level teacher education courses including Evaluation in Career and Technical Education, Principles of Educational Research, Implementing Total Quality Management in the Classroom; Project-Based Curriculum Development; Supervision and Instructional Improvement, Methods of School Improvement, and courses related to the Malcolm Baldrige National Quality Award Performance Criteria for educators. Direct research of graduate students working for Masters degree. Advise students on academic and vocational curricula. Serve on department, college, and university committees. Extensive state and national grant development and supervision. Finalist for Ferris State University Distinguished Teacher Award, 1993 and 1997; Recipient of the Michigan Association of Governing Boards of State Universities Distinguished Faculty Award, 1989 (Peer-selection process). Promoted to Full Professor July, 1987; tenured November, 1989; merit award 2003.

Automotive Manufacturing Technical Education Collaborative (AMTEC), Director of Assessment and Evaluation, Kentucky Community and Technical Community College System (KCTCS), 2010 to 2017

Provide leadership in developing occupational standards, modularized validated curriculum aligned to industry-endorsed skills standards, and formative and summary industry-endorsed maintenance certification assessments for this National Science Foundation National Center for Excellence. Facilitate sessions with business and industry representatives.

Michigan Center for Career & Technical Education (MCCTE), Project Director, July, 2006 to December, 2012

Provide statewide research leadership for a \$500,000 project funded by the Office of Career and Technical Preparation, Michigan Department of Education, in CTE related to Perkins IV legislation and the implementation of technical standards and assessments for all of Michigan's CTE programs. In addition, provide leadership in aligning the national career clusters and pathways to Michigan's CTE program areas. Create and maintain the Website; designed an innovative, web-based, statewide system for data collection.

The National Occupational Competency Testing Institute, Big Rapids, MI.

Senior Consultant, 1985 to present

Conduct workshops in the area of occupational job analysis (using a custom Turbo-DACUM process), test development (written and performance), data analysis, and cut score determination for business and industry clients. Clients include such prestigious clients as 3M; Toyota; General Mills; General Motors; Bosch; Caterpillar; Lucent Technologies; Walt Disney World; Kellogg; Philip Morris; Sony.

Ferris State University, Big Rapids, MI.

Assistant Vice President for Curriculum and Instruction (Acting),
September, 1986-September, 1989. (half-time position)

Responsible for curriculum and faculty development and served as liaison with the Academic Senate and Office of Academic Affairs. Initiated and supervised the implementation of an academic program review program and a pilot student outcomes assessment project. Coordinated tenure, sabbatical leave, and research and faculty development grants. Member of the Deans' Council and the President's Cabinet. Initiated and served as acting Director of Timme Center for Teaching Excellence.

National Center for Research in Vocational Education, The Ohio State University,
Columbus, OH. Research Specialist and Coordinator, Institute Program,
The National Academy for Vocational Education, April, 1984 to November, 1984.

Coordinated the planning, promotion, and administration of cost-recovery professional development programs on a nationwide basis for vocational leaders and other appropriate audiences. Facilitated and conducted conferences, workshops and seminars consistent with planned scopes of work; supervised program staff in initiating, coordinating the arrangements of and administering professional development programs for appropriate audiences; developed promotional strategies and materials for the program and supervised staff in their implementation; developed budgets for professional development activities; developed field based arrangements for the support of programs through contracts, joint sponsorship and other linkages.

Dalton Junior College, Dalton, GA.

Instructional Coordinator, September, 1982 to April, 1984.

Provided leadership and guidance in the development and operation of 13 vocational and technical programs. Responsibilities included assisting instructors in updating and revising curriculum to competency-based, in developing criterion-referenced testing procedures, in planning programs and curriculum; coordinating day and evening classes; promoting and administering ongoing professional personnel development; assisting in public relations; coordinating

the GOAL (Georgia Occupational Award of Leadership) program; writing proposals and coordinating various Job Training Partnership Act projects and programs; and assisting in the development and administration of community, business, industry and education linkages.

Virginia Polytechnic Institute and State University, Blacksburg, VA

Assistant Professor (non-tenure track), Research Associate/Project Director,
December, 1979, to August, 1982.

Planned, staffed and directed the development and delivery of contract and grant services from the Virginia Department of Education and Governor's Employment and Training Council, Richmond. Project responsibilities included conducting conferences, institutes and workshops; providing technical assistance in the areas of competency-based curriculum development, program planning, task analysis, staff development, and skills and management training; writing and editing proposals, monographs, journal articles, newsletters, and manuals; and coordinating all graduate research assistants and secretarial schedules and duties. Functional skills include administration/management of federal and state funded contracts and grants, fiscal planning and management, office and program administration, logistics and supply procurement, proposal development and planning, personnel administration, conference planning and management.

Virginia Polytechnic Institute and State University, Blacksburg, VA

Graduate Research Assistant, 1979.

While completing course work for doctorate, assisted in CETA funded project operation.

Shiraz Iran Electronics Industries (I.E.I.) School, Shiraz, Iran

Business Education Teacher, 1975-79.

Taught all business education courses on both junior and senior high levels to American and English-speaking Iranian students. Also coordinated and taught an executive secretarial training program to I.E.I. Iranian secretaries.

Palm Beach County Board of Education, West Palm Beach, FL.

Business Education Teacher and Department Chairperson, 1970-1975.

Taught and coordinated a pre-vocational career orientation and exploration program for middle school students.

Jacob's Jewelry Store, West Palm Beach, FL.

Office manager

Responsible for all recordkeeping and financial reports for store, 1968-1970.

SELECTED SCHOLARSHIP

Dissertation

Manley, K.K. The Congressional Intent, Implementation, and Utilization of Section 202(d) Linkage Funds of the Comprehensive Employment and Training Act as Amended in 1978. (Doctoral dissertation, Virginia Polytechnic Institute and State University, 1981). Dissertation Abstracts International, 1981, (06), 2642A.

White Paper

Manley, K.K. PROPOSAL for NEW ALTERNATIVE FOR MICHIGAN MERIT AWARD. Submitted to the Michigan Legislature. Commissioned by Dr. Sederburg, President, FSU, and two vocational centers in Michigan. December 2001.

Research Report and Final Report

Manley, K. "National Survey of Teacher Testing in Career & Technical Education," NOCTI, 2002.

White Paper, **PROPOSAL for NEW ALTERNATIVE FOR MICHIGAN MERIT AWARD**, requested by Dr. William Sederburg, President Ferris State University, November, 2001.

Six Proposals to Improve Career and Technical Education, requested by Dr. William Sederburg, President, Ferris State University, 2002.

Manley, K.K. & Backstrom, J.C. An Assessment of the Training Needs of Career-Vocational Counselors, Job Placement and Career Resource Center Personnel in Michigan: Implications for Long-Term Professional Development. funded by Michigan Department of Education, Lansing, August, 1986.

Manley, K.K. Summary of Statewide Student Competency Testing Survey, January, 1991.

Technical Manual

Manley, K.K., & Brownell, T. (eds.) Wells-Index system 3 operating and programming manual. Big Rapids: Manufacturing Resource and Productivity Center, Ferris State University, 1985.

Referred Articles

Vogler, D.E. & Manley, K.K. CETA Impact: Community Services. Community Services CATALYST, 1982, XII(3), 18-21.

Vogler, D.E. & Manley, K.K. A Policymaker's Overview: Federally Sponsored Employment & Training. Washington: American Council on Higher Education, July, 1982.

Manley, K.K. & Vogler, D.E. Youth employability: linkages as a catalyst. Youth Employability Award Winning Monographs. Columbus: National Center for Research in Vocational Education, 1981.

Journal Articles

Manley, K.K. Through an Innovative Collaboration, Techniques, March, 2013.

Manley, K.K. What happens when homemakers lose their jobs? Transformation, 1983, 1(1), 12, 14.

Manley, K.K. & Vogler, D.E. CETA: a synopsis. Journal of Studies in Technical Careers, 1983, V(2), 127-133.

Manley, K.K. & Vogler, D.E. Vocational education: a synopsis. Journal of Studies in Technical Careers, 1983, V(1), 55-61.

Manley, K. "The future of CETA/Education Linkages." CETA/EDUC Linkages, 1982 2(6), 3-5.

Manley, K.K. & Eschemann, K.K. Legislative update: CETA/vocational education trends for the future. VocEd Insider, 1981, 56(5), 34b-c.

Dewald-Link, M.R. & Manley, K.K. An ounce of prevention. . Illinois Teacher of Home Economics, 1981, XXIV(3),106-109.

McGough, R.L. & Manley, K.K. Linkages can work. VocEd, 1981, 56(1), 63-66.

McGough, R.L., Eschenmann, K.K., & Manley, K.K. Strategies to develop CETA/education linkages. Journal of Studies in Technical Careers, 1980, III(1), 94-101.

Monographs

Vogler, D.E. & Manley, K.K. A Policymaker's Overview: Federally Sponsored Employment & Training. Washington: American Council on Higher Education, July, 1982.

Manley, K.K. & Vogler, D.E. Youth employability: linkages as a catalyst. Youth Employability Award Winning Monographs. Columbus: National Center for Research in Vocational Education, 1981.

Manley, K.K., & Berns, R.G. Innovative approach for training the CETA client, Richmond: Governor's Employment and Training Council, 1980.

Howlett, S.E., Manley, K.K., Dewald-Link, M.R., & McGough, R.L. Meeting the needs of the displaced homemaker. Blacksburg: Division of Vocational and Technical Education, Virginia Polytechnic Institute & State University, 1980.

Proceedings Documents

Manley, K.K., Eschenmann, K.K., & McGough, R.L. Proceedings document of CETA/education linkages workshops for individual prime sponsor localities in Virginia. Richmond: Governor's Employment & Training Council, 1981.

Hickey, J., Vogler, D.E., McGough, R.L., & Manley, K.K. CETA/education linkage workshops: proceedings document. Blacksburg: Division of Vocational & Technical Education, VA Polytechnic Institute & State University, 1980.

Resource Manuals

Manley, K.K. Instructional Effectiveness Program for New Instructors-a Handbook. Big Rapids: Ferris State University, 1985.

Manley, K.K. & Patton, C. Resource manual for delivery of comprehensive services to displaced homemakers in Whitfield, Murray, and Gordon Counties, Georgia. Atlanta: GA Department of Education, 1984.

Trapnell, G., McGough, R.L., & Manley, K.K. An orientation to CETA and vocational education, Revised Edition. Richmond: Governor's Employment & Training Council, 1981.

Manley, K.K., McGough, R.L., & Dewald-Link, M.R. Resource manual for delivery of comprehensive services to displaced homemakers. Richmond: Governor's Employment & Training Council, 1980.

Other

McGough, R.L., Eschenmann, K.K. & Manley, K.K. Working with CETA. (Slide-tape). Blacksburg: VA Polytechnic Institute and State University, 1980.

SELECTED FUNDED RESEARCH & DEVELOPMENT

2006-2012, Michigan Department of Labor & Economic Development, Michigan Center for Career and Technical Education (MCCTE-FSU), No. 07CTE002, approximately \$300,000 annually

2008-2011 Kentucky Community & Technical College System (KCTCS), "Curriculum Development" for approximately 50 occupational content areas

2007 & Continuing, Automotive Manufacturing Technical Education Consortium (AMTEC), National Science Foundation (NSF) National Center of Excellence, \$5 million 2007-2011; \$3 million 2012-2016.

2006, Massachusetts Department of Education, CTE, Developing assessments for 45 CTE programs.

2003-2004, Lansing Community College, "Curriculum Development & Assessment Services for approximately 20 occupational content areas for LCC-West M-Tech Center," approximately \$250,000.

January, 2003, Manufacturing Skills Standards Council of the National Skills Standards Project awarded to the National Occupational Competency Testing Institute. Will develop eight national certification test development aligned to the MSSC Production Manufacturing Standards—March and April, 2003.

November, 2002, National Survey of Teacher Testing for National Occupational Competency Testing Institute.

August, 1989, "Vocational-Technical Education Curriculum Project," Michigan Department of Education, Lansing, \$641,000.

October, 1989, "Vocational-Technical Education Personnel Development Project," Michigan Department of Education, \$390,000

May, 1986, "Connecticut Assessment of Educational Programs, Small Engine, Drafting, and Graphic Arts, Connecticut State Department of Education, Hartford, \$110,000. (2 year project)

January, 1984, "Automotive Mechanics Training Program for High School Drop-outs," GA Department of Education, Atlanta, GA, \$34,424.

January, 1984, "Displaced Homemaker and Re-Entry Women Project," GA Department of Education, Atlanta, GA, \$13,393.26.

January, 1984, "Counseling and Assessment Program," GA Department of Education, Atlanta, GA, \$20,976.46.

October, 1983, "Individual Referral for Job Training Partnership Act Clients," North GA Area Planning and Development Commission, Dalton, GA, \$65,480.

November, 1981, "CBE Teacher Assistance Program and In-service Summer Conference," VA Department of Education, Richmond, GA, \$73,401.

October, 1981, "Individualized CETA/Education Linkage Workshops for Prime Sponsor Localities," funded by Governor's Employment and Training Council, Richmond, VA, \$49,564.

October, 1981, "Continuation of CETA/Education Linkage Newsletter," funded by Governor's Employment & Training Council, Richmond, VA, \$32,451.

July, 1981, "Statewide Technical Assistance to Programs for Displaced Homemakers," funded by VA Department of Education, Sex Equity Office, Richmond, VA, \$25,107.

October, 1980, "Individualized CETA/Education Linkage Workshops Designed By and For Prime Sponsor Localities in VA," funded by Governor's Employment & Training Council, Richmond, VA, \$58,128.

October, 1980, "Continued Information Dissemination Project: Update of CETA/Education Resource Manual and Continued Publication of CETA/Education Linkage Newsletter," funded by Governor's Employment and Training Council, Richmond, VA, \$17,798.

October, 1980, "CETA/Education Linkage Technical Conference," funded by Governor's Employment and Training Council, Richmond, VA, \$71,798.

February, 1980, "CETA/Education Linkage Statewide Workshops," funded by Governor's Employment and Training Council, Richmond, VA, \$59,616.

December, 1979, "Delivering Comprehensive Services to Displaced Homemakers in VA," funded by Governor's Employment and Training Council, Richmond, VA, \$63,488.

October, 1979, "CETA/Education Linkage Slide-Tape Series: Developing Strategies for CETA/Education Linkages," funded by Governor's Employment and Training Council, Richmond, VA, \$18,148.

October, 1979, "In-Service, Technical Assistance, and Information Dissemination Project for CETA/Education Linkages," funded by Governor's Employment and Training Council, Richmond, VA, \$85,455.

April, 1979, "Regional CETA/Education Linkage Workshops," funded by Governor's Employment and Training Council, Richmond, VA, \$23,345.

INTERNATIONAL WORKSHOPS/PRESENTATIONS CONDUCTED

Invited Participant, Vocational Education and Training in the Automotive Sector European Network Conference, Brussels, Belgium, May 7-10, 2011.

The VETAS network conference brings together practitioners and researchers in the field of vocational education and training and human resources management in the automotive sector. They are coming from automotive enterprises and supplier industry, vocational schools and other training providers, social partners, public authorities as well as research institutions in order to exchange on and to discuss topics such as

_globalization and vocational training in the automotive sector,

_changing qualification needs and

_networking among automotive stakeholders in Europe.

Leading experts and industry representatives from automotive manufacturers and supplier industry, training organizations, social partners, governments and universities such as VW Service Deutschland (DE), Magna International Europe AG (AT), Bosch Spain (ES), Politecnico di Torino (IT), DEKRA Akademie GmbH (DE) are contributing as speakers and moderators to the conference. Speakers, guests and participants are expected from all over Europe, the United States and Russia.

Invited Participant, The Global Automotive Technical Education Network (GATEN) Meeting in Cologne: A workshop for vocational education and training practitioners; Follow-up planning meeting to present work to international automotive partners to move goals and objectives forward, Cologne, Germany, May 11-14, 2011.

The main aim from this project isn't that it is helping to train a competitive workforce in manufacturing or even that countries can team up productively. The main lesson is that if technical education is carefully targeted to skills that important industries need and focuses on flexible learning of skills required by all players in that industry, then it is possible to scale up a global workforce education program in any industry. The new economy requires workers with outstanding technical skills and highly developed problem-solving abilities. These workers will be the backbone of tomorrow's prosperity, and the need for them is so great that successful technical education must be replicated on a wide scale in industry after industry.

The demand for workers with industry-recognized certificates is particularly urgent across all countries in the health care and green jobs industries. There are not enough skilled workers for health care and green jobs. Innovating in a few training programs at a time will not make enough of a difference. To truly scale up a learning program in clean energy, for instance, this project can build on this auto manufacturing example and deploy transformative collaboration to prepare workers for these important industries on a national scale.

Participant in “Siemens Mechatronic Systems Certification Program” in order to experience the mechatronic curriculum delivery model, July 6-10, 2009, Berlin, Germany

Facilitated the “Advanced Implementation Seminar”, in collaborative discussions with German teacher educators on strategies for implementing the mechatronic delivery model into USA public institutions and corporate training units, July 13-16, 2009, Berlin, Germany

“Iran Technical and Vocational Training Project—Training Standards and Curriculum Development” funded by the International Bank for Reconstruction and Development (World Bank). Served as a consultant and one of a four person international team providing expertise in assessment and certification. First mission January 3-17, 2008 in Tehran, Iran.

“Skills Assessment and Certification Test Project For the Expansion, Improvement and Development of Palau High School’s Instructional Academies, Koror, Palau, Micronesia, August, 2000

“Skills Assessment and Certification Test Project For the Expansion, Improvement and Development of American Samoa High School’s Instructional Academies, American Samoa Department of Education, Pago, Pago, American Samoa, December, 2000

“Skills Assessment and Certification Test Project For the Expansion, Improvement and Development of Kosrae Career Pathways and Instructional Academies, Kosrae State Department of Education, Federated States of Micronesia, Tofol, Kosrae, February, 2001

Presenter, “Learning Strategies,” Hogeschool, Enschede, Netherlands, National Education and Technology Conference, November 6, 1999.

Presenter/Facilitator, Acer Computers, Global Operations, Acer Computer Distributor Meeting, Team 1990, Monte Carlo, Monaco and Kuala Lumpur, Malaysia, 1990.

International Program, Ferris State University, faculty, Belize Program for Secondary School Administrators, taught graduate courses in Belize City, Belize, 1986-1987.

International Program, Ferris State University, project coordinator, Belize Program for Secondary School Administrators, coordinated the six week intensive program, Summer, 1985 and Summer, 1986.

International Program, Ferris State University, project coordinator, Belize Program for Primary School Administrators, coordinated the six week intensive program, Summer, 1986.

WORKSHOPS CONDUCTED

“AMTEC’s Collaborative Methodology to Develop State-of-the-Art Curriculum and Establish a Skilled Workforce Pipeline” with Stanley Chase, Danine Tomlin, July 21, 2014, Hi-Tec (High Impact Technology Exchange Conference), Chicago, IL

2015 Webinar Series--“*Plumbing & HVACR Instructor Bootcamp Webinar Series*” Sponsored by Plumbing-Heating-Cooling Contractors Association (PHCC) Educational Foundation and Kohler

Wednesday, August 5, 2015, 11 a.m. EDT - Webinar #1
Planning Instruction & Turning Standards into Curriculum - recorded webinar

Friday, August 7, 2015, 11 a.m. EDT - Webinar #2
Tips for Effectively Delivering Instruction - recorded webinar

Thursday, August 20, 2015, 11 a.m. EDT - Webinar #3
Tips for Effectively Evaluating Student Performance - recorded webinar

Thursday, August 27, 2015, 11 a.m. EDT - Webinar #4
Technology Tips and Tools - recorded webinar

Lansing Community College and Michigan State University, Global Leadership Workshop for Higher Administration & Management of TVTC, “*Business Partnership and Curriculum Development: The DACUM Process*,” Repeated for four groups of vocational administrators from Saudi Arabia

- September 11, 2013
- September 18, 2013
- October 30, 2013
- November 5, 2013

“*2013 Instructor Bootcamp*” Sponsored by Plumbing-Heating-Cooling Contractors Association (PHCC) Educational Foundation, Brass Craft, Cooper Development Association, Inc, and Kohler, Eastern Regional Instructor Training, Valley Forge, PA, May 16, 2013; Southern Regional Instructor Training, San Antonio, June 20, 2013

AMTEC Academy—“*A System’s Approach to Curriculum & Assessments*,” November 12, 2013, Louisville, KY.

AMTEC Certification and Assessment, “*AMTEC Academy—Developing the Future of the Manufacturing Workforce*,” April 12, 2013, Nissan, Smyrna, TN.

“*2012 Instructor Bootcamp*” Sponsored by Plumbing-Heating-Cooling Contractors Association (PHCC) Educational Foundation and Kohler, May 10-11, San Diego; June 7-8 Indianapolis; and August 9-10, Baltimore, MD

“*Data-Driven Introduction to Assessment for CTE*” Capital Area Career Center Faculty Development, January 16, 2012.

“*Balanced Scorecard Development*,” Community College Research Center, CCRC, Teachers College, Columbia University, New York, New York, May 24-25, 2010.

2011-2012 Facilitated Business and Industry Meetings and Webinars for Michigan’s CTE Programs

- 47.0613 Medium / Heavy Truck Technician Webinar for Business and Industry, October 13, 2011
- Electric Hybrid Vehicle Face to Face Meeting, Detroit, October 20, 2011
- 47.0604 Automotive Technician Business and Industry Webinar for Business and Industry, October 23, 2011
- 52.0299 Business Administration Management and Operations Webinar for Business and Industry, November 8, 2011
- Aviation Face to Face meeting at Hanna Building, Business and Industry, November 10, 2011
- 52.0299 Business Administration Management and Operations Face to Face Business and Industry Meeting, February 28, 2012
- Electric Hybrid Automotive Business and Industry Meeting, March 14, 2012

2011-2012 Facilitated Michigan CTE Curriculum Segmenting Sessions with Teachers

- 52.1999 Marketing, Sales and Service Segmenting at Ingham ISD, December 2, 2011
- 47.0604 Automotive Technician Segmenting Thorburn at Ingham ISD, December 6, 2011
- 47.0606 Small Engine and Related Equipment Repair Segmenting Thorburn at Ingham ISD, December 7, 2011

- 47.0613 Medium / Heavy Truck Technician Segmenting Thorburn at Ingham ISD, December 7, 2011
- 47.0603 Collision Repair Technician Segmenting CACC at Ingham ISD, December 8, 2011
- 49.0399 Industrial Equipment Maintenance and Repair Segmenting Meeting, January 24, 2012
- Aeronautics Programs (Power Plant, Avionics, Airframe, and Aeronautics) Segmenting Meeting, January 31, 2012

2011-2012, Facilitated Michigan Academic Alignment sessions with CTE and Academic Teachers

- Academic Alignment Training Meeting, March 28, 2012
- 52.1999 Marketing, Sales and Service Academic Alignment Meeting, March 29, 2012
- Academic Alignment meeting - Henry Center, East Lansing, MI, April 17, 2012

2010-2011 Facilitated Business and Industry Meetings and Webinars for Michigan's CTE Programs

- 46.0301 Electrical & Power Transmission Installation
- 50.0101 Visual and Performing Arts
- 47.0201 HVAC
- 10.0202 Radio & TV
- 11.0801 Digital/Multimedia and Information Resources Design
- 11.0201 Computer Programming/ Programmer
- 11.1001 Systems Administration/ Administrator Programs
- 11.0901 Computer Systems Networking and Telecommunications
- 15.1301 Drafting & Design /
- 15.1306 Mechanical Drafting
- 15.0000 STEM

2010-2011 Facilitated Michigan CTE Curriculum Segmenting Sessions with Teachers

- 46.0301 Electrical & Power Transmission Installation, January 27, 2011
- 47.0201 HVAC, October 14, 2010
- 10.0202 Radio & TV, October 14, 2010
- 11.0801 Digital/Multimedia and Information Resources Design, January 28, 2011
- 11.0201 Computer Programming/ Programmer, January 28, 2011
- 11.1001 Systems Administration/ Administrator Programs, January 28, 2011
- 11.0901 Computer Systems Networking and Telecommunications, January 28, 2011
- 15.1301 Drafting & Design, March 9, 2011
- 15.1306 Mechanical Drafting, March 9, 2011
- 14.4201 Mechatronics, April 18, 2011
- 15.0000 Engineering, General, April 20, 2011

2010-2011, Facilitated Michigan Academic Alignment sessions with CTE and Academic Teachers

- 46.0301 Electrical & Power Transmission Installation, March/8/2011 (Math)
- 47.0201 HVAC March 8, 2011 (Math)
- 10.0202 Radio & TV, March 9, 2011 (English)
- 11.0801 Digital/Multimedia and Information Resources Design, March 7, 2011 (English)
- 11.0201 Computer Programming/Programmer, March 7, 2011 (Math)
- 11.1001 Systems Administration/Administrator Programs, March 7, 2011 (English)
- 11.0901 Computer Systems Networking and Telecommunications, March 7, 2011 (Math)
- 15.1301 Drafting & Design , April 18, 2011 (Math)
- 15.1306 Mechanical Drafting, April 18, 2011 (Math)

2009-2010 Facilitated Business and Industry Meetings and Webinars for Michigan's CTE Programs

- Financial & Financial Management Services Program, May 6, 2010
- Construction Trades (November 12, 2009 and May 5, 2010)
- Electrical/Electronic Equipment Installation and Repair, May 18, 2010
- Construction Trades November 12, 2009

- Electrical/Electronic Equipment Installation and Repair, December 1, 2009
- Education and Child & Custodial Care, November 10, 2009 and December 2, 2009
- Law, Public Safety and Security, November 9, 2009
- Graphics & Printing Technology and Communication, November 10, 2009

2009-2010 Facilitated Michigan CTE Curriculum Segmenting Sessions with Teachers

- Financial & Financial Management Services June 16, 2010
- Education and Child & Custodial Care Services, January 28, 2010
- Construction Trades, June 8, 2010
- Electrical/Electronic Equipment Installation & Repair, June 30, 2010
- Graphics & Printing Technology and Communication, February 29, 2010
- Law, Public Safety & Security, February 4, 2010
- Marketing Sales, & Services Marketing & Entrepreneurship, March 10, 2009
- Graphics & Printing Technology and Communication, February 6, 2009, March 3, 2009
- Marketing Sales, & Services Marketing & Entrepreneurship, February 23, 2009, March 10, 2009
- Automotive Technicians, February 23, 2009

2009-2010, Facilitated Michigan Academic Alignment sessions with CTE and Academic Teachers

- Financial & Financial Management Services, March 9, 2010 (Math)
- Education, March 13, 2009 (Math) and May 5, 2010 (English)
- Child & Custodial Care Services, March 13, 2009 (Math)
- Construction Trades, March 13, 2009 (English)
- Building Maintenance, February 23, 2010 (English)
- Industrial Production Technology, February 24, 2009 (math)
- Electrical & Power Transmission Installation, February 24, 2009 (English) and March 9, 2009 (Math)
- Graphics & Printing Technology and Communication, March 12, 2009 and April 28, 2010 (Math) and May 2, 2010 and June 7, 2010 (English)
- Law, Public Safety & Security, March 13, 2009 and April 28, 2010 (Science) and June 7, 2010 (English)
- Marketing, Sales and Services, April 28, 2008 and November 17, 2008
- Automotive Technician, March 12, 2009 (English)

2008-2009 Facilitated Michigan CTE Curriculum Segmenting Sessions with Teachers

- Education and Child & Custodial Care Services, March 3, 2008, April 29, 2008
- Construction Trades, February 6, 2008
- Building Maintenance, April 24, 2008
- Electrical/Electronic Equipment Installation & Repair, February 8, 2008
- Industrial Production Technology, February 8, 2008
- Electrical & Power Transmission Installation, March 31, 2008 and April 24, 2008
- Graphics & Printing Technology and Communication, March 31, 2008
- Law, Public Safety & Security, February 7, 2008, April 24, 2008
- Marketing Sales, & Services Marketing & Entrepreneurship, February 21, 2008
- Automotive Technicians, February 7, 2008

2008-2009, Facilitated Michigan Academic Alignment sessions with CTE and Academic Teachers

- Radio & TV Broadcasting, November 8, 2008 (English)
- Graphic & Printing Technology & Communication, November 8, 2008 (Math) and March 9, 2009 (English)
- Visual & Performing Arts, February 9, 2009 (Math and Science)
- Computer Systems Networking & Telecommunication, March 9, 2009 (Math and English)
- System Administration/Administrator, November 8, 2008 (Math) and March 9, 2009 (English)
- Digital/Multimedia & Information Resources Design, November 8, 2008 (Math) and March 9, 2009 (English)
- Computer Programming/Programmer, November 8, 2008 (Math) and March 9, 2009 (English)
- Business Administration, Management & Operations, November 8, 2008 (English) and March 9, 2009 (Math)
- Financial & Financial Management Services, November 8, 2008 (Math) and March 9, 2009 (English)

- Marketing, Sales & Services, November 8, 2008 (Math)
- Drafting & Design Technology, November 8, 2008 (Math) and March 9, 2009 (English)
- Construction Trades, November 8, 2008 (Math) and March 9, 2009 (English)
- Electrical & Power Transmission Installation, February 9, 2009 (English & Math)
- HVACR, November 8, 2008 (Math) and March 9, 2009 (Science)
- Industrial production Technology, February 9, 2009 (Math)
- Building Maintenance, February 9, 2009 (English and Math)
- Machine Tool Operations/Machine Shop, November 8, 2008 (Math) and March 9, 2009 (English)
- Welding, Brazing and Soldering, November 8, 2008 (Math) and March 9, 2009 (English)
- Woodworking and Cabinetmaking, November 8, 2008 (Math)
- Electrical/Electronic Equipment Installation & repair, November 8, 2008 (Math) and May 5, 2009 (Science)
- Marine Maintenance, February 9, 2009 (Science) and May 5, 2009 (Math)
- Collision Repair Technician, November 8, 2008 (Math) and May 5, 2009 (Science)
- Automotive Technician, November 8, 2008 (Math)
- Medium/Heavy Truck Technician, February 9, 2009 (English) and March 9, 2009 (Math & Science)
- Small Engine, February 9, 2009 (Science)
- Power Plant, February 9, 2009 (English) and May 5, 2009 (Math)
- Aeronautics, March 9, 2009 (Science)
- Health Sciences, November 8, 2008 (Science) and March 9, 2009 (English)
- Law Enforcement/Fire Fighting, November 8, 2008 (English), March 9, 2009 (Science)
- Child & Adult Care Services, November 8, 2008 (English) and March 9, 2009 (Math)
- Cosmetology, November 8, 2008 (Science) and March 9, 2009 (Math)
- Education, November 8, 2008 (English) and March 9, 2009 (Math)
- Applied Horticulture & Horticulture Business Services, November 8, 2008 (Science) and March 9, 2009 (English)
- Agriculture, Agricultural Operations Related Science, November 8, 2008 (Science) and March 9, 2009 (Math)
- Natural Resources, March 9, 2009 (Science) and March 9, 2009 (English)

MCCTE-FSU Grant Teacher Academy

- Conducted Teacher Academy Session, Big Rapids, June 16, 2009
- Conducted Teacher Academy, July 14-16, 2009 and August 4-5, 2009
- Conducted Teacher Academy, August 3-4, 2010

Automotive Manufacturing Technical Education Collaborative (AMTEC)— AMTEC is a collaboration of community and technical colleges and industry partners who seek to better prepare highly skilled technicians and manufacturing engineers for work in automobile manufacturing and technology.

- Multi-Skilled Maintenance, DACUM, Toyota Motor Manufacturing, September 25-26, 2007
- Tool and Die, DACUM, Toyota Motor Manufacturing, September 12-13, 2007
- Conducted Delphi Research Study of DACUM with General Motors, BMW, Ford, and Toyota and 15 various USA community college programs, 2007-2008
- Facilitated Core Curriculum Development with all AMTEC partners (business and industry and community college partners) using DACUM and Delphi results, Louisville, KY August, 5-8, 2008
- Conducted Regional Gap Analysis sessions for AMTEC partners
 - Birmingham, AL, November 14, 2008, CARCAM and Alabama Department of Postsecondary Education at Lawson State Community College
 - Knoxville, TN, January 7, 2009, Pellissippi State Technical College
 - San Antonio, TX, January 9, 2009, Alamo Community College District
 - Dearborn, MI, January 12, 2009, Henry Ford Community College
 - Danville, VA, January 16, 2009, Danville Community College
 - Oakland Community College, Auburn Hills Campus, March 31, 2010
 - Lansing Community College, October 8, 2009
- Assessment and Test Item Development Sessions, 2009-2010
 - General Motors, May 11-12, 2009
 - Macomb Community College, September 20, 2009

- Presentation, NSF Visiting Committee presentation, Georgetown, KY, April 23, 2009
- Presentation to NSF Pre-Award Session, November 2, 2009
- Facilitated AMTEC Strategic Planning Session and Balanced Scorecard Development, UAW Headquarters, Detroit, MI, May 20-21, 2009 and October 13, 2009
- AMTEC Modularized Curriculum Development Session, Knoxville, TN June 27-28, 2010

“Testing Series” Webinar for General Mills Corporate Learning Leaders

1. Turn standards in curriculum, June 4, 2009
2. Developing a table of test specifications (blueprint) from a DACUM, June 8, 2009
3. Constructing cognitive (knowledge) assessment items (e.g., true-false, matching, multiple choice, verbal essay, short answer, etc.) and bias review and taking out subjectivity, June 15, 2009
4. Constructing performance “hands-on” skill demonstration jobs and rubrics, June 19, 2009
5. Constructing rubrics to measure affective (attitude) content, July 1, 2009
6. Calculating and using item level statistics to improve assessments, July 20, 2009
7. Establishing a valid and defensible cut score and providing feedback, August 7, 2009

“Train the Trainer” conducted for General Mills Learning Leaders, Rockford, IL, February 12, 2009.

“Gap Analysis and Modularization” in the technical areas of Multi-Skilled Maintenance and Nursing for Madisonville Community College, Madisonville, KY, August 11-12, 2008.

“Academic Alignment” as part of the MCCTE-FSU Grant, conducted four one-day workshops to align CTE technical standards and Michigan’s content expectations.

“Segmenting CTE Technical Standards,” as part of the MCCTE-FSU grant, conducted eight one-day sessions for all CTE program areas—February 6, 7, 8, 21, 22, March 3 and 31.

NOCTI Performance Improvement Quarterly Web Seminars

- Webcast, facilitated topic of “Motivation Matters,” NOCTI professional development, February 26, 2008.
- Webcast, facilitated topic of “Turning Standards Into Curriculum”, February 17, 2009
- Webcast, facilitate topic of “A Standards Approach to Curriculum Development, April 27, 2010

“Integrating Academics and CTE,” Mt. Pleasant Area Technical Center, January 15, 2007

“Professional Development Day Speaker, Creating a Learning Organization,” Lansing Community College, Technical Careers Division, May 15, 2007.

“Train the Trainer”, Pipe Trades Training Center, San Jose, CA, August 4-5, 2005

“Leadership Development Program DACUM”, for Western Michigan University, March 22-23, 2001, Lansing, MI

“Train-The-Trainer for Death Investigators” for Occupational Research and Assessment, Baltimore, MD, March 20-March 22, 2001 and St. Louis, MO, October 26-27, 2000.

"Linking a Quality Initiative to School Improvement"--two day workshop, Calhoun Area Career Center, August 10-11, 1998 and continuing.

"Career Pathways Teacher Academy," facilitation from 1995 to current, Grand Rapids Public Schools and Mason-Lake Area Schools

"Instructional Strategies for New Instructors," Ferris State University, During Orientation Week Fall, 1994 through 1998

"Implementing Total Quality Management," Kent Career Center, November 18, 1996.

“Implementing Total Quality Management,” Genessee Area Career Center, November 18, 1996.

"Linking a Quality Initiative to School Improvement," Careerline Tech Center, August 26, 1996.

"Implementing Total Quality Management," Michigan Department of Education, at Western Michigan University Summer Institute, August 7, 1996.

"Train the Trainer," Recreation Vehicle Industry Association, Elkhart, Indiana, May 3, 1998, 1997, 1996 and 1995.

"Implementing Total Quality Management," Kent Career and Technical Center, 1994-1995.

"Train the Trainer," Diesel Technology Company, Grand Rapids, MI, 1997-1998 (four sessions)

"School-to-Work Teacher Academy" for Mason Lake Intermediate School District and Grand Rapids Intermediate School District, Summers of 1995, 1996, and 1997 and continuing.

"Toward a Continuous Improvement Model for Pharmacy Clinical Practice," for Pharmacy Preceptor Conference, November 6, 1993. (with Sid Systma)

"Writing Outcomes Together," Capital Area Career Center, Mason, MI, October 11, 1993.

"An Introduction to DACUM," Job Training Partnership Act Service Providers in Illinois, Chicago, September 23, 1993.

"Business Services and Technology Restructuring Workshop," for Newaygo area BST teachers, sponsored by Newaygo Area Tech Prep Consortium, July 13 and October 26, 1993.

"Instructional Strategies for New Ferris State University Faculty," (workshop for all new faculty hired for 1993-94), August 24, 1993.

"Business Services and Technology Restructuring Workshop," for Washtenaw I.S.D., May 12, 1993.

"Learning Styles," Lansing Community College Professional Development, May 7, 1993.

"Instructional Strategies for Food Service Instructors," for MICHRIE Annual Conference, April 2, 1993, Clarion Hotel and Conference Center, Big Rapids, MI.

"Performance Testing for Vocational Students," Hill Vocational Center, Lansing, MI, March 24, 1993.

"Tech Prep as the Catalyst for Restructuring," Trade and Industrial Conference, March 11, 1993, sponsored by Professional Development Institute, Ferris State University.

"Instructional Strategies", Montcalm Community College, December 16, 1992.

"Restructuring Business Education to BST," Ann Arbor Public School, September 21-22, 1992 and November 6, 1992.

"PEAKS Training," Jackson Career Center, August 31, 1992.

"Instructional Content Development for Office Systems Technology and Mechanical Technology for McHenry County Tech Prep Initiative, Crystal Lake, IL, May 27-28, 1992.

"Tech Prep Implementation Strategies," McHenry County College and Surrounding School Districts, Crystal Lake, IL, May 7-8, 1992.

"Clustering Vocational Education," Fenton Area Schools, March 26, 1992.

"Instructional Strategies for BST Implementation," Monroe Public Schools, February 5, 1992.

PEAKS Training Session, Sanilac Career Center (September 23, 1991); Northeastern Michigan College for MODAC (September 12-13, 1991); Jackson County I.S.D. (November 21-22, 1991)

"Instructional Strategies That Work," Wayne County Community College Faculty Development Workshop, January 25, 1991.

"Instructional Strategies for the 90's," Kellogg Community College, Battle Creek, MI, January 9, 1991.

Conducted a DACUM (Develop a Curriculum) process for College of Pharmacoclinical program, January 8 and 15, 1991.

"PEAKS CourseBuilder and LessonBuilder Workshops," (Instructional development software used in the VTE Curriculum Project), to over 100 vocational teachers , October, 1989-March, 1991.

"Using The Computer as a Tool in Curriculum Development," American Technical Education Association Regional Conference, Big Rapids, November 2, 1990.

"Instructional Strategies for Business Educators," Michigan State University, October 5, 1990.

"Increasing Instructional Effectiveness," Bronson School of Nursing, Kalamazoo, MI, October 31, 1989.

"Enhancing Your Instructional Effectiveness and Evaluating Student Performance," Delta College, University City, MI, November 11, 1988.

"Instructional Planning--A Competency-Based Approach, " Associated Builders and Contractors, Grand Rapids, MI, October 27, 1988.

"Effective Testing Procedures," Associated Builders and Contractors, Grand Rapids, MI, November 3, 1988.

"Implementing Competency Based Education and Information Resources Available to Vocational Educators," Leadership Development Program, Ferris State University, July 27-28, 1988.

"Coaching the Intern," School of Pharmacy, Clinical Program, Ferris State University, September 9, 1988.

"Competency Test Development, " Nissan, Los Angeles, CA, May 12-13, 1988.

"Beyond DACUM for Competency Test Development," DELCO, Rochester, NY, April 28-29, 1988 and July 7-8, 1988.

"DACUM for Pharmacy Externship," School of Pharmacy Clinical Program, Ferris State University, March 1-2, 1988 and updated January 8 and 15, 1991.

"Writing Effective Proposals From A Curriculum Viewpoint," Grand Rapids Clearinghouse for Training Resources, February 2, 1988.

"Interpretation Workshop for State Advisory Committees in Drafting, Graphic Arts, and Small Engines on Connecticut Statewide Testing Project," Connecticut State Department of Education, November 5, 1987.

"Identifying Measurable Outcomes In Occupational Education," Mid-Michigan Community College Faculty Development, October 30, 1987.

"Evaluating Student Performance," School of Pharmacy, Annual Preceptor Conference, Ferris State University, September 10, 1987.

"Information Resources Available to Vocational Educators", Leadership Development Program, July 29-30, 1987.

"Workshop to Set Cut-Scores on Drafting, Graphic Arts, and Small Engines Test," Connecticut State Department of Education, May 7, 8, and 11, 1987.

- “Instructional Effectiveness Program,” School of Education, Telecommunications Faculty, September 19, October 3, 17, 31, and November 14.
- “Instructional Effectiveness Program for New Instructors,” School of Technology, Ferris State University, 1986, 1987, 1988, and continuing. Plan, organize, and conduct an instructional effectiveness program for new technology faculty members.
- “Feasibility Study Statewide Forum for Community College Personnel,” sponsored by Vocational Education Counseling and Placement Services, held in Lansing Michigan, July 25, 1986. (with John Backstrom)
- “Feasibility Study Statewide Forum for Secondary Personnel,” sponsored by Vocational Education Counseling and Placement Services, held in Lansing Michigan, June 26, 1986. (with John Backstrom)
- “Employability Skills Training,” for faculty at Jackson Area Career Center, Jackson, MI, April 10, 1986.
- “Employability Skills Training,” for faculty at Midland Public Schools, Bay City, MI, April 25, 1986.
- “Item Writing Workshop for Vocational Administrator Competency Test,” Leadership Development Project, Ferris State University, in Mt. Pleasant, MI, March 19 and 20.
- “Employability Skills Training,” Ferris State University, sponsored by the MI Department of Education, November 19, 1985 and February 26, 1986. (with Backstrom)
- “Instructional Effectiveness Program for New Instructors,” School of Technology, Ferris State University, August-December, 1985. Planned, organized, and conducted an instructional effectiveness program for 12 new technology faculty members.
- “Vocational Education in Corrections,” Lexington, KY. Sponsored by The National Academy for Vocational Education and the Correctional Education Association, July 12-13, 1984.
- “Implementing Competency Based Education”—A Retreat and Workshop for Dalton Junior College Instructors, September 7, 8, 9, 1983.
- Virginia CETA Summer Conference, Blacksburg, VA, July 19-23, 1982. Planned, organized and conducted week-long conference for all CETA instructors, counselors, and administrators in Virginia. (with Eschenmann)
- “Putting Competency-Based Education to Work,” Fredericksburg, VA, June, 2-4, 1982. Coordinated and conducted a three day conference for selected resource personnel from CETA programs in Virginia. (with Eschenmann)
- “Competency Based Education: An Administrative Perspective,” April 5-7, 1982, Williamsburg, VA. Conducted a three day conference for CETA administrators on implementing competency-based education in Virginia. (with Eschenmann)
- CETA/Education Linkage Workshops Designed for Prime Sponsor Localities
- City of Portsmouth CETA Office, January 20, 1982
 - Richmond Area Manpower Planning System, February 17, 1982
 - Peninsula Office of Manpower Programs, April 21, 1982
 - Fifth District Employment & Training Consortium, Roanoke, VA, April 22, 1982
 - Henrico-Chesterfield-Hanover Counties CETA Consortium, Richmond, May 26, 1982
- Planned and conducted these workshops funded through the Governor’s Employment and Training Council, Richmond, to provide localities with linkage workshops tailored to specific needs.
- Get Your Act Together: Help Shape the Future for Displaced Homemakers and Sex Equity. Localities include Norfolk, April 20, 1982; Alexandria, April 27, 1982; Richmond, April 28, 1982; Blacksburg, May 4, 1982; and Charlottesville, May 6, 1982
- Planned and co-directed five seminars funded through a contract through the Virginia Department of Education, Sex Equity Office, to develop community linkage in the development of programs to assist displaced homemakers and to develop awareness in opportunities available to non-traditional programs.

CETA/Education Linkage Workshops Designed for Prime Sponsor Localities
—Richmond Area Manpower Planning System, February 11-12, 1981
—Fifth District Employment & Training Consortium, April 2 and 9, 1981
—Henrico-Chesterfield-Hanover Counties CETA Consortium, April 28-29, 1981
—Prince William County CETA Office, April 30, 1981
—City of Portsmouth CETA Office, May 28-29, 1981
Planned and conducted these workshops funded through the Governor’s Employment & Training Council, Richmond, to provide localities with a needs assessment for linkage and develop a plan of action. (with McGough and Eschenmann)

Developmental Workshop for State CETA Evaluators, Virginia Beach, September 9-10, 1980. Assisted in planning and organizing training session for potential evaluators of CETA programs. (with McGough and Eschenmann)

Virginia Summer Employment & Training Conference, Blacksburg, VA., July 21-25, 1980. Directed planning and logistical arrangements for 237 participants which provided in-service training for instructors, counselors, and administrators of CETA programs in Virginia (with McGough and Eschenmann)
Serving the Displaced Homemaker, Localities include Arlington, August 18, 1980; Norfolk, August 20, 1980; Richmond, August 22, 1980; Charlottesville, August 26, 1980; and Roanoke, August 28, 1980
Planned, organized, and conducted workshops funded through the Governor’s Employment & Training Council, Richmond, to provide training for administrators who desired to design occupational training programs for displaced homemakers in Virginia.

SELECTED PROFESSIONAL PRESENTATIONS

Presentation—2018 Career Education Conference, “*What CTE Teachers Should Know and Be Able to Do*”, Grand Rapids, MI, January 29, 2018

Presentation—2017 Career Education Conference, “*A System’s Approach to Industry-Driven Curriculum and Assessment*”, Grand Rapids, January 29, 2017.

Presentation—2017 Career Education Conference, “*Reflect, Transform, and Lead: A New Vision for Education*”, Grand Rapids, MI, January 29, 2017.

Keynote Presenter—Partnering for Transfer! “*Reflect, Transform and Lead—A New Vision for Educators*,” Big Rapids, MI, October 28, 2016

Keynote Presenter—2016 HVACR Instructor Workshop, “*Reflect, Transform and Lead—A New Vision for HVACR Education*”, Big Rapids, MI, August 1, 2016

Presentation—2016 HVACR Instructor Workshop, “*A Sharper Focus on Technical Workers in the HVACR Industry*”, Big Rapids, MI, August 3, 2016

Presentation—High Impact Technology Exchange Conference, (Hi-Tec), “*How AMTEC is Using Data*,” Pittsburgh, PA, July 27, 2016

Presentation—MECHA-WA/AMTEC-KY Workshop, Center of Excellence for Aerospace and Advanced Manufacturing, “*AMTEC’s Core Values and Concept’s—AMTEC’s Innovation and Educational Foundation*,” Everett, WA, May 16, 2016

Presentation—MECHA-WA/AMTEC-KY Workshop, Center of Excellence for Aerospace and Advanced Manufacturing, “*Measurement, Analysis and Knowledge Management—What the Data Tells Us*,” Everett, WA, May 16, 2016

Presentation—MECHA-WA/AMTEC-KY Workshop, Center of Excellence for Aerospace and Advanced Manufacturing, “*Best Practices on Implementation—What Worked—What Didn’t Work—Results of Touch Lesson’s Learned,*” Everett, WA, May 16, 2016

Presentation—AMTEC National Visiting Committee, “*Goal 4 Assessment Results*”, Hammond, IN, April 12, 2016

Presentation—AMTEC Full Circle Spring Academy, “*Competency Based Education—What is it, Why it should be used*”, Lansing, MI, April 4, 2016

Presentation—AMTEC Full Circle Spring Academy, “*AMTEC Assessment Tools—An Overview of the AMTEC Process*”, Lansing MI, April 4, 2016

Presentation—2016 American Technical Education Association (ATEA), “*AMTEC Assessment Tools,*” Orange Beach, FL, March 11, 2016

Presentation—2016 American Technical Education Association (ATEA), “*Competency Based Education,*” Orange Beach, FL, March 11, 2016

Presentation--“*How AMTEC is Using Data to Improve Instructional Delivery and Performance,*” National Career Pathways Network Conference (NCPN) Annual Conference, Dallas, TX, October 30, 2015.

Presentation—“*AMTEC’s Collaborative Methodology for Developing State-of-the-Art Curriculum and Establishing a Skilled Workforce,*” National Career Pathways Network Conference (NCPN), 2014, Orlando, FL, October 14, 2014

Presentation--“*Automotive Manufacturing Technical Education Collaborative: Developing a State of the Art Curriculum and Establishing a Skilled Workforce Pipeline*”, ACTE Best Practices Conference, Cape Code, MA, September 18, 2014.

Keynote Presentation—“*Symposium 2014—Future Insight: Competency-Based Education. “A Contemporary Application with Employers*”, July 22, 2014, Traverse City, MI

Presentation—“*AMTEC’s Collaborative Methodology to Develop State-of-the-Art Curriculum and Establish a Skilled Workforce Pipeline,*” HI TEC (High Impact Technology Exchange Conference), Educating America’s Technical Workforce, July 21, 2014, Chicago, IL

Presentation, “*A New Perspective on the Traditional Curriculum and Assessment Development Process: AMTEC’s Lessons Learned,*” ACTE Career Visions Conference, Las Vegas, NV, December 4, 2013.

Presentation—“*Teaching Problem Solving: Flipping the Technical Education Classroom,*” Kentucky Association of Career and Technical Education, Louisville, KY, July 14, 2013.

Presentation—“*The Manufacturing Career Pathways: Why Exemplary Career Pathway Programs Work,*” StemTech Conference, Kansas City, MO, October 29, 2012, with Dr. Zaragoza, Stanley Chase, Beverly Hilderbrand.

Presentation--“*An Innovative Perspective Revolutionizing the Traditional Curriculum and Assessment Development Process—Lessons Learned.*” Association of Career and Technical Education (ACTE) & NCLA Best Practices and Innovation Conference, Oklahoma City, OK, October 11, 2012 with Dr. Annette Parker

Presentation--“*Why Exemplary Automotive Career Pathway Programs Work: 5 Case Studies,*” National Career Pathway Network (NCPN)”, October 18, 2012, Richmond, VA, with Dr. Annette Parker, Dr. Stanley Chase, Beverly Hilderbrand, Dr. Federico Zargoza

Presentation--“*A New Perspective on the Traditional Curriculum & Assessment Development Process*,” National Council for Workforce Education (NCWE), Long Beach, CA, October 21, 2012, with Dr. Annette Parker

Presentation--“*Exemplary Advanced Manufacturing Career Pathway Programs That Work*”, National Council for Workforce Education (NCWE), Long Beach, CA October 22, 2012, with Dr. Annette Parker and Dr. Stanley Chase

Presentation—“*Transition to the Common Core Standards and Next Generation Assessments for CTE*”, Academic Alignment for Marketing Teachers, March 29, 2012.

Presentation—“*Building Understanding Into the Curriculum*,” Michigan Career Conference, February 7, 2012.

Presentation—*National Perspective on CTE*, Michigan Teacher Academy, October 3, 2011

Presentation—*Turning Standards into Curriculum*, Michigan Teacher Academy, October 3, 2011

Presentations—Association of Career & Technical Education (ACTE) Conference, Las Vegas, December 1-3, 2010

- NOCTI Pre-Convention: *A Systems Approach to Career & Technical Education* (December 1, 2010 and repeated December 3, 2010)
- *Turning Occupational Standards Into Curriculum* (December 2, 2010)
- *Aligning Academics and CTE Standards: Michigan’s Innovative Approach* (December 3, 2010)

Presentation Webinar, *A System’s Approach to Curriculum Development*, NOCTI Quarterly Performance Improvement Web Seminar Series, April 27, 2010.

Presentation, *An Overview of MCCTE work and Turning Standards into Curriculum*, 2010 Teacher Academy—North Central Michigan Tech Prep Partnership, June 15, 2010.

Presentations at the Michigan Career Conference, February 1-3, 2010, Grand Rapids, MI

Manley with Glenna Zollinger-Russell and Jan Vogel, Michigan Career Conference, Grand Rapids, MI, “*MI NAVIGATOR—CTE’s New Electronic Portal*”, Monday, February 1, 2010, 11:00 a.m. - 12:00 a.m.

Manley with Glenna Zollinger-Russell, Michigan Career Conference, Grand Rapids, MI “*Retooling CTE in Michigan—Part I*” Monday, February 1, 2010, 1:45 p.m. - 2:45 p.m.

Manley with Jan Vogel, Michigan Career Conference, Grand Rapids, MI, “*Retooling CTE in Michigan--Part II*”, Monday, February 1, 3:00 p.m. – 4:00 p.m.

Manley, Michigan Career Conference, Grand Rapids, MI “*Applying a System’s Approach to CTE Curriculum*”, Tuesday, February 2, 2010, 9:15 a.m. - 10:15 p.m.

Manley, Michigan Career Conference, Grand Rapids, MI, “*Turning Standards Into Curriculum*”, Tuesday, February 2, 2010, 10:30 a.m. - 11:30 a.m.

Presentations at the Association for Career & Technical Education (ACTE), Nashville, TN, November 18-20, 2009

Manley, ACTE, Nashville, TN, “*Turn Green Standards Into Curriculum, Part I*,” Wednesday, November 18, 2009, 2:00-3:15 p.m.

Manley, ACTE, Nashville, TN, “*Turn Green Standards Into Curriculum, Part II*,” Wednesday, November 18, 2009, 3:30-4:45 p.m.

Manley, ACTE, Nashville, TN, “*A Process to Turn Standards into Curriculum*,” Thursday, November 19, 2009, 2:00-3:00 pm

Manley, ACTE, Nashville, TN, “*Applying a System Approach to Instructional Design in CTE*,” Friday, November 20, 2009, 10:45-11:45.

Manley, ACTE, Nashville, TN, “*How CTE is Adding Relevance to the Rigor of Michigan’s Increased Graduation Requirements*”, Friday, November 20, 2009, 3:45-4:45.

Presentations--Two Pre-Recorded Presentations on July 14, 2009, at Michigan Business Education Association via DVD, “**Re-tooling CTE**” and “**Turning Standards Into Curriculum**” Used Skype to participate live in Q&A

Presentations, Michigan Career Education Conference, February 9-10, 2009

- *Programs of Study: Issue and Approaches* with Glenna Zollinger-Russell, Jan Vogel and Dr. Manley
- *Sneak Peak at the Academic Alignment Research Results* with Glenna Zollinger-Russell, Jan Vogel, Dr. Steve Clark, and Dr. Manley
- *What do we do with these Career Clusters, New Technical Standards and Segments* with Glenna Zollinger-Russell, Jan Vogel and Dr. Manley
- *How to Become a Learning Centered Institution--Lessons Learned from Business and Industry*
- *Strategies for Turning Standards Into Curriculum*

Presentation, “Fine Tune Your Engine: Turning Standards Into Curriculum,” at the Association for Career and Technical Education (ACTE), Charlotte, NC, December 3, 2008.

Presentation, “Motivation Matters,” at the Association for Career & Technical (ACTE) Convention, Charlotte, NC, December 4, 2008.

Presentation “Academic Alignment in CTE”, Michigan Department of Education-OCTE Update, August 11, 2008 in Big Rapids and September 8, 2008 in Lansing.

Presentation, “Teaching & Learning Strategies” and “Accountability in CTE”, Michigan Business Education Association, Grand Rapids, MI July 17, 2008

Presentation, “Strategies for Engaging the GenX and Millennial Students,” Michigan Career Conference, Detroit, MI February 11th, 2008.

Presentation, “Creating a Culture of Achievement for All Students,” Michigan Career Conference, Detroit, MI, February 11, 2008.

Presentation, “Moving Forward with Michigan’s NEW CTE Curriculum Initiative—Implementing Career Clusters, Career Pathways and Technical Standards” (with Glenna Zollinger-Russell, OCTE and Jan Vogel) Michigan Career Conference, February 12, 2008.

Presentation, “Segmenting CTE Standards for Instructional Delivery, (with Glenna Zollinger-Russell)” MI Career Conference, February 12, 2008.

Presentation, “Creating a Culture of Achievement for All Students,” Association for Career & Technical Education, ACTE, Las Vegas, December 12, 2007

Presentation, “Motivation Matters,” Association for Career & Technical Education, ACTE, Las Vegas, December 13, 2007.

Presentation, “Michigan CTE Curriculum Standards Update,” Michigan Health Occupations Education Association (MHOEA) in Brighton, MI, November 8, 2007.

Presentation, “Moving Forward with Michigan’s New CTE Curriculum Initiative—Implementing Career Clusters, Career Pathways, and Technical Standards, Michigan Drafting Educators Association (MDEA), Big Rapids, MI, November 6, 2007.

Presentation, “Strategies for Engaging the GenX and Millennial Student,” Michigan Business Education Association (MBEA), Frankenmuth, MI, October 25, 2007.

Presentation, “Michigan CTE Curriculum Standards Update” (live and webcast) Michigan Business Education Association (MBEA), Frankenmuth, MI, October 25, 2007.

Webcast Presentation, “Career and Technical Education Standards and Gap Analysis” statewide webcast hosted by Wayne RESA with Jan Vogel and Glenna Zollinger-Russell, October 23, 2007.

Presentation, “What Brain Research Shows Us About How Students Learn”, July 12, 2007, American Refrigeration Institute (ARI) Regional Summit at Ferris State University, July 12, 2007.

Presentation, “Developing Assessments”, July 12, 2007, American Refrigeration Institute (ARI) Regional Summit at Ferris State University, July 12, 2007.

Presentation, “Update on MCCTE-FSU’s Technical Standards,” Regional Teacher Academy, Ferris State University, June 15, 2007.

Webcast Presentation, Michigan CTE Technical Standards Update, May 22, 2007, Webcast from Wayne RESA, Wayne, MI (with Patty Cantu and Glenna Zollinger-Russell)

Presentation, “MCCTE-FSU Update—CTE as a Solution,” Kent Intermediate School District, Grand Rapids, MI, April 17, 2007.

Presentation, “Career & Technical Education’s (CTE) Role in Changing Michigan’s High Schools: What You Need to Know About CTE’s Statewide Efforts Relative to Rigor and Relevance” , 2007 12th Annual Governor’s Education Summit in Lansing, March 26, 2007 (with Glenna Zollinger-Russell)

Presenter, “High School Redesign with a focus on Relevance provided by CTE”. Calhoun ISD High School Redesign Session, Battle Creek, MI, February 26, 2007, Battle Creek, MI

Presenter, “A Value of a Statewide System Approach to Curriculum and Assessment”, 2007 Michigan’s Career Conference, February 11-13, 2007 (with Dr. Steve Clark)

Presenter, ““Sneak Peek” the New CTE State Standards”, 2007 Michigan’s Career Conference, Detroit, February 11-13, 2007 (with Drs. Clark and Thomas)

Presenter, “A Balanced Scorecard Approach that Focuses on Results and Creating Value”, 2007 Michigan’s Career Conference, Detroit, February 11-13, 2007.

Keynote, “Using Assessment to Drive Program Improvement,” Roanoke City Schools, Roanoke, VA November 21, 2006.

Presentation, MCCTE-FSU Introduction to Electronic Database Curriculum Development Project, Michigan Administrative Update, November 14-15, 2006.

Presentation, MCCTE-FSU Update Curriculum Development Project, Michigan CCDA (Curriculum Directors Association) and CTE Commission of the MASSP, October 13, 2006.

Keynote, “How to become a Learning College—Lessons Learned from Business and Industry”, St. Clair Community College, September 29, 2006.

Presentation, 2006 Michigan Conference on Career Education, "What Can CTE and Business and Industry Offer to Academic Educators?" Governor's Conference, Feb 7, 2006.

Presentation, 2006 Michigan Conference on Career Education, "Using the Malcolm Baldrige Performance Criteria to Improve Program Outcomes?" Governor's Conference, Feb 6, 2006.

Keynote, "Making a Difference Conference", FSUS Instructors, Ferris State University, August 26, 2005.

Presenter, (with Dr. Deb Schultz) A Model for Using Board Exam Results as a Method of Outcomes Assessment , Trends in Occupational Studies, October, 6, 2005.

Presenter (2 presentations), How Important is Certification and Accreditation in the workplace and Building a Professional Development Program,, Conference on Marine Industry Technical Training (COMITT), Ft. Lauderdale, FL, February 4, 2005.

Presenter (with Dr. Nancy Cooley and Ellie Boyd), "Using Occupational Competency Testing for School Improvement" NCA Higher Learning Commission Conference, Chicago, April 19, 2005.

Keynote, "An Indepth Look at Instructional Strategies," Michigan Business Education Regional Conference, Grayling, MI June 25, 2004.

Presenter, "Instructional Strategies for Postsecondary Faculty," Baker College, Cadillac, June 16, 2003.

Presenter, "Assessment Theory and Interactive Session," Heath and Human Services Career Division, Lansing Community College, January 8, 2003.

Presenter, "The Learning College," Health and Human Services Careers Division, Lansing Community College, January 6, 2003.

Presenter, "Instructional Strategies for Postsecondary Faculty," Baker College-Muskegon, September 19, 2002.

Presenter, "Implementing Career Pathways," Fremont Intermediate School District, faculty inservice, Fremont, MI, October 7, 2002 and October 21, 2002.

Presenter, "New Century DACUM," State Leadership Conference for Vocational Administrators, Michigan Department of Career Development, August 2, 2001.

Presenter (with Dr. Nancy Cooley and Ellie Boyd), "Navigating the Quality Award Process in Post-Secondary Education," 107th NCA Annual Meeting of the Higher Learning Commission/NCA Annual Meeting, Chicago, IL, March 24, 2002.

Presenter, "Creating Successful Partnerships with Business & Industry, Organizations, and Universities," Organizational Development Conference, Linkages, Inc., Naples, FL, October 2-5, 2000. (Co-presenters Dr. Ray Ryan, NOCTI, and Jim Schultz, Director of Training, General Mills, Inc.)

Commencement Speaker, Ferris State University, Colleges of Education and Optometry, Mar 8, 1999.

Keynote Speaker, "Instructional Strategies for Faculty," St. Paul's College, Livingston, VA, August 15, 1996.

Keynote Speaker, "Pre-Employment Assessment or High Training Costs," for Genesee Area, January 26, 1995.

Presenter, "Instructional Strategies for Community College Educators," Trends in Occupational Studies Conference, Traverse City, MI, October 15, 1993.

Presenter, "Restructuring--How and Why," Saline Area Schools, Saline, MI, December 3, 1992.

Presenter, "Restructuring--Tech Prep As The Catalyst," Lake County School System, Grayslake, IL, November 9, 1992.

Presenter, "Instructional Strategies for Community College Educators," Trends in Occupational Studies Conference, Traverse City, MI, October 15, 1992.

Keynote Presenter, "Restructuring Business Services Technology," Michigan Business Education Association Annual Conference, Ypsilanti, MI, June 24, 1992.

Presenter, "Designing an Assessment System," International Association of Hotel Reservation Executives, 7th Annual Conference, San Antonio, TX, May 3-6, 1992.

Presenter, "Clustering as a Tool for Restructuring," Michigan Curriculum Leaders Annual Conference, March 11, 1992.

Presenter, "Instructional Strategies for Allied Health Educators," Trends in Occupational Studies Conference, Grand Rapids, MI, November 15, 1991).

Keynote Presenter, "Instructional Strategies for Vocational Educators," November 1, 1991, Taylor School District.

Keynote Presenter, "Increasing Instructional Effectiveness," Montcalm Community College, Stanton, MI, January 10, 1990.

Keynote Presenter, "Key Strategies for Involving Students in Institutional Change" Delta College, University City, MI, November 11, 1988.

Presenter, "Results of Statewide Testing Project in Graphic Arts, Drafting, and Small Engines," Connecticut Technology Education Leadership Council, May 19-20, 1988.

Presenter, Allied Health Faculty, Ferris State University, "Testing Higher Level Thinking Skills," April 14, 1987.

Presenter, Michigan Association of Counseling and Development, "Findings of Feasibility Report," at Michigan Association of Counseling and Development Conference, Flint, November 3, 1986. (with John Backstrom)

Presenter, Michigan Council of Vocational Administrators, "Improving Your Guidance Program," at Michigan Occupational Education Association Conference, Lansing, November 7, 1986.

Presenter, Leadership Development Project, "Evaluation Techniques," at Ferris State University, August 14, 1986.

Presenter, Leadership Development Project, "Research Skills," at Ferris State University, August 7, 1986.

Presenter, "Cut Off Scores," at National Occupational Competency Testing Institute 7th Annual Conference, at Ferris State College, July 24, 1986

Presenter, School of Nursing, Ferris State University, "Information Resources for Use in Curriculum Development", January 24, 1986. (with Ed Cory)

Presenter, School of Technology, Ferris State University, faculty meeting, "Computerized Resources for Use in Curriculum Development," November 12, 1985. (with Ed Cory)

Presenter, Leadership Development Project, Michigan Occupational Education Association Annual Conference, "The Master of Science Degree in Occupational Education at Ferris State College," November 9, 1985. (with Ed Cory)

Presenter, Center for Occupational Education Advisory Committee, "Update on the Master of Science in Occupational Education Program," May 21, 1985.

Consultant, School of Technology, Ferris State University, "Instructional Effectiveness Program for New Instructors," planned and conducted workshops for 12 newly hired instructors, Fall Quarter, 1985.

Presenter, "Implementing Competency Based Vocational Education," Carroll County Area Vocational School, January 4, 1984.

Speaker, Dalton-Whitfield Chamber of Commerce Manufacturer's Breakfast, "Dalton Junior College's Vocational Programs," January 19, 1984.

Keynote Speaker, North Georgia Personnel Association Meeting, "Community College Linkage with Business-Industry," November 8, 1983.

Presenter, "Where Do I Go From Here With My C.B.E.? (Competency Based Education)," Virginia Employment & Training Conference, Blacksburg, VA, August 2-5, 1983.

Presenter, "Plan for the Future," Virginia Employment & Training Conference, Blacksburg, VA, August 2-5, 1983.

Presenter, "Taking Competency Based Education Off of the Shelf," Virginia Employment & Training Conference, Blacksburg, VA, July 20-23, 1982.

Facilitator and Chairperson, Teacher Weekender, Manpower Training Instruction. American Vocational Association Convention, Atlanta, December 5-6, 1981.

Chairperson, Division General Session, American Vocational Association Convention, Atlanta, December 7, 1981.

Presenter, one of three individuals selected nationally to present dissertation representing qualitative research by the American Vocational Education Research Association at the American Vocational Association Convention, Atlanta, December 6, 1981.

Presenter, "Implementing Competency Based Education," Newport New Public School Supervisors of Vocational Education, August, 1981. (with Eschenmann and McGough)

Presenter, "CETA Trends and Legislative Update," Virginia Vocational Association Conference, Norfolk, August, 1981.

Presenter, "What happened to the 1% linkage funds?" American Vocational Association Annual Convention, New Orleans, December 9, 1980.

CONSULTING

The National Occupational Competency Testing Institute (NOCTI), Senior Consultant

Conducted Occupational Job and Task Analysis, Occupational Skill Test Development (written and performance tests) and Cut Score Development for such companies/organizations as:

- SpaceTEC, NSF Funded ATE Center
- FANUC America Robotics, Certified Education for Advanced Automation (CERTEducation), 2016 and continuing
- The International Association of Bridge, Structural, Ornamental and Reinforcing Iron Workers Union, AFL-CIO, 2016 and continuing
- AMWAY, Grand Rapids, 2013 and continuing
- National Association of Hose and Accessories Distribution (NAHAD), 2006 and continuing
 - Review and revise six tests (2012, 2014)
 - Hydraulic Hose
 - Fluoropolymer Hose
 - Composite Hose
 - Hydraulic Hose
 - Corrugated Hose
 - Industrial Hose
- American Boat and Yacht Council (ABYC), 1997- continuing

- Marine Accident Investigator (2010)
- Marine Systems (2014)
- Ameren, St. Louis, MO, 2014 and continuing
 - Supply Chain Technician (2014)
- BICSI (Information, and Communication Technology Community), Tampa, FL, 1996-1997 and continuing
 - Outside Plant Designer (2014)
- Central Ohio Transmit Authority (COTA)
 - Transmit Mechanic
- United Association United Association of Journeymen and Apprentices of the Plumbing and Pipefitting Industry of the United States and Canada (2001-2002 and continuing)
- Coordinate Metrology Society (CMS)
 - Level 1—3D portable metrology and Level 2 PCMM portable coordinate measuring machine practical performance assessment (2012)
- Boeing , 2009 and continuing
 - Plumbing (2010)
 - HVAC-R Specialist (2010)
 - Electrician and Electronics Technician (2010)
 - Utility Worker (2011)
 - Machine Repair (2011)
 - Crane Mechanic (2011)
- Boeing Composite Wing Center (CWC) work includes job analysis, written and performance test and curriculum modularization (2014 and continuing)
 - 90204 Composite Fabricator (December, 2014)
 - 76074 Composite Assembler (December, 2014)
 - C3406 Inspector Fabrication (April, 2015)
 - 57006 Laminator Operator (April, 2015)
 - 75307 Routing Machine Operator (April, 2015)
 - 54808 tooling Inspector (May, 2015)
 - C1006 Autoclave Operator (June, 2015)
- Michigan State University, Lansing, MI, May-June, 1993.
 - Telecommunication Technician (2011)
- Plumbing, Heating and Cooling Contractors, (PHCC) 2008 and continuing
 - Energy and Water Conservation (2010)
 - Water Auditor
- Hershey Foods Corporation, 2003 and continuing
 - Electrician review (2010)
- Pet Professionals Accreditation Board (2015)
 - Professional Canine Trainer and Professional Canine Behavior Consultant
- Georgia Power, 2009 and continuing
- Temple University for Pennsylvania Department of Education, assessment development, 2006-2007
- New York City Schools, assessment development, 2007
- Nestle, Chatsworth, CA and Mt. Sterling, KY, 2006 and ongoing
- General Mills, Inc., 1997 (on going)
 - Puff Bulk Pack—Buffalo, NY (2012)
- Quaker, Oakland, CA, 2001 & continuing
- IncoComm, Fairfax, VA, 2005
- Conoco Phillips, New Jersey, 2004 to present
- BAMA Companies, Tulsa, OK, 2004
- National Council for Skills Standards in Graphics Communication, 2004 and continuing (Stitcher certification)
- Sappi Fine Paper, Muskegon, MI, 2002-2004
- City of Detroit, 1999 - 2000
- Rubber Manufacturer's Association, 1999-2000

- Robert Bosch, Charleston, SC (1997)
- Lucent Technologies, 1999
- 3M, St. Paul, MN, 1997
- Lithonia Lighting, Cochran, GA, February, 1997
- Alcan Cable, Kansas, 1997
- Kellogg, Battle Creek, 1998
- Lance, Inc, Charlotte, NC, 1998
- General Motors, Detroit, MI, 1997
- Dayton Power and Light, Dayton, OH, 1997-1998
- Kemper Insurance, Long Grove, IL, 1996-97
- Toyota Motor Manufacturing, June, 1997
- Philip Morris, Richmond, VA, 1996-1997
- Utah Transit Authority, Salt Lake City, UT, 1996-1997
- ARMCO, Bulter, PA, June, 1997
- Duquesne Lighting, Pittsburgh, PA, May, 1997
- Association of Rubber Manufacturing, 1998
- National Institute Metalworking Standards Project, 1996-1997
- GTE, Atlanta, GA, 1997
- Smith & Nephew, Memphis, TN, 1996-1997
- Union-Electric, St. Louis, MO, 1996
- Digital Audio Disc Corporation, SONY, 1991-1995
- Vista-United Telecommunications, Walt Disney World, Orlando, FL, December, 1994-January, 1995.
- Nestle Chocolate Company, Franklin Park, IL, December 7-9, 1994.
- St. Joseph Hospital, Detroit, MI, August, 1994.
- Steelcase Corporation, Grand Rapids, MI, July, 1994.
- Recreation Vehicle Industry Association (RVIA), 1994-1995
- Caterpillar, Peoria, IL, June, 1994
- Department of Energy for Alternative Fuels Project, May 31-June 2, 1994, Nashville, TN.
- CIBA Vision, Atlanta, GA, 1994.
- Sony Music, Carrolton, GA, August-November, 1993
- Tampa Electric Company, Tampa, FL, September, 1992-October, 1992.
- Dupont, DeLisle Plant, Pass Christian, Mississippi, April, May, and June, 1992.
- Reedy Creek Energy Systems, Disneyworld, May, June, and July, 1992.
- Sebring Electric Company, Sebring, FL, April 20-21, 1992.

American Mold Builders Association (AMBA) Skills Certification programs—3 certifications include (2013)

- Master Moldmaker
- Primary Skills
- Master CNC Specialist

Mt. Pleasant Public Schools, Mt. Pleasant, MI

- Developed Five Year Static Plan (2012-2013)
 - Sessions with public and school on October 2, 2012, November 8, 2012, January 10, 2013, and February 12, 2013
 - Presented to the School Board, March 5, 2013

Bevill State Community College, Birmingham, AL

- Logistics Specialist Job Analysis and Curriculum Development (2012)

Corporate and Professional Development Unit, Ferris State University

- AMWAY Nutritional Plant (2014)
- Home Performance Retrofit Professional, March 2-3, 2010
- Steelcase, Grand Rapids, MI

- Electrical Generating Systems Association (EGSA), 2014
- Dow Chemical, Midland, MI
- conducted job analyses and written test development, equipment skill performance checksheets for Diesel Technology Company
- Rubber Manufacturer's Association (1994-1997),
- United Association of Journeymen and Apprentices of the Plumbing, Pipefitting, and Sprinkler Fitting Industry, 2000-continuing
- Yoplait, Reed City, test development for maintenance apprenticeship program

Kentucky Community & Technical College System (KCTCS), conducted DACUM with Business and Industry Groups and Gap Analysis Sessions with Faculty

- Business Administration and Business Management and Marketing, DACUM, September 28, 2010
- Civil Engineering Technology and Surveying and Mapping Technology, DACUM, October 22, 2010 and Gap Analysis, November 16, 2010
- Energy Systems, DACUM, October 6, 2010 and Gap Analysis, November 15, 2010
- Health Physics, DACUM, October 21, 2010 and Gap Analysis, November 18, 2010
- Homeland Security & Emergency Management, DACUM, October 21, 2010 and Gap Analysis, November 18, 2010
- Industrial Chemical Technology and Applied Process Technology, DACUM, September 29, 2010 and Gap Analysis, November 15, 2010
- Visual Communications and Information Management and Design, DACUM, October 7, 2010 and Gap Analysis, November 11, 2010
- Business Studies: Office System Technology and Medical Information Technology, DACUM, September 28, 2010
- Information Technology, Computer and Information Technologies and Computer Information Systems, DACUM, September 30, 2010 and Gap Analysis, November 23, 2010
- Architecture, DACUM March 5, 2010 and Gap Analysis, November 16, 2010
- Collision Gap Analysis February 5, 2010
- Diesel Program, Gap Analysis February 5, 2010
- HVAC DACUM, February 12, 2010 and Gap Analysis, November 10, 2010
- Manufacturing, March 26, 2009
- Welding Technology, DACUM, March 27, 2009 and Gap Analysis, September 30, 2009
- Manufacturing Industrial Technology: Electrical Engineering Technology, February 20, 2009, DACUM and Gap Analysis, September 30, 2009
- Computer Aided Drafting DACUM and Gap Analysis, October 1, 2009
- Manufacturing Industrial Technology—Engineering Technology, DACUM March 20, 2009 and Gap Analysis October 1, 2009
- Machine Tool, March 5, 2009 DACUM and Gap Analysis October 2, 2009
- Manufacturing Engineering Technology, Gap Analysis October 2, 2009
- Surveying and Mapping, DACUM, October 7, 2009
- Masonry, DACUM, October 27, 2009 and Gap Analysis, November 9, 2010
- Construction and Painting, DACUM, October 28, 2009 and Gap Analysis, November 9, 2010
- Plumbing, DACUM, November 4, 2009 and Gap Analysis, November 10, 2010

Lansing Community College, Lansing, MI, industry-based job analysis for curriculum development for newly funded M-TEC center. (2002-continuing). Conducted job analysis for all technical programs. Conducted curriculum gap analysis and course development sessions. Assisted faculty in the development of modularization of all curriculum.

Job and Task Analysis and Curriculum Development Assistance, Grand Rapids Community College, Tech Prep Consortium, 1994 and continuing.

Genessee Area Schools, Tech Prep survey development, 1995.

Curriculum Reviewer for Marshall Institute, 1995.

National Gaseous Fuels Training, Testing, and Certification Committee, August 4-6, 1993, Lake Tahoe. Served as consultant to group in facilitating the evaluation of training programs.

Conducted a comprehensive survey of 2,000 teachers, counselors, and administrators in Montcalm Area ISD for Tech Prep, Montcalm ISD, November, 1992-March, 1993.

Establishing a Cut Score on the Army Food Service and Wheel Vehicle Mechanic Tests, EER Systems, Richmond, VA, September 10, 1992 and May 17, 1993.

Third Party Evaluation, Skillman Foundation, St. Clair County Vocational Consortium Project, 1991. (with Dr. Steven Clark)

Tech Prep Implementation, McHenry County College, Crystal Lake, Illinois, 1991-continuing.

Job and Task Analysis and Performance Test Development, Third Party Evaluation of Hinks Elementary School, Alpena, MI, Kellogg Foundation Grant, 1991-continuing. (with Sidney Sytsma)

Grand Rapids Public Schools, Tech Prep curriculum development project, 1990-1991. (Dr. Linda Peters, contact)

Kent County I.S.D., Technology Education curriculum development, 1991 to present. (Sid Holodnick, contact)

Grand Blanc Community Schools and Lake Fenton Public Schools, Business Services and Technology cluster implementation and curriculum development.

Midland County I.S.D., Third Party Evaluation of Vocational-Technical Programs, 1991 to present. (Bill Edwards, contact)

Ottawa Area I.S.D. Business Service and Technology teachers, implementing the BST cluster, 1991 to present. (Gene Neidzgiecki, Director, contact.)

South and West Washtenaw Consortium, Business Services and Technology teachers, implementing the BST cluster, 1990 to present. (Dave Mieras, Asst. Superintendent for Area Planning, contact)

Innovative Training & Marketing Services, Port Huron, MI, Team building consultant, Malaysia (May 28-April 2, 1990) and Monte Carlo (May 1-6, 1990)

International Rectifier, El Segundo, CA, customer satisfaction survey with Howlett & Company, Phoenix, AZ, 1990

Kaibab Forest Products, Phoenix, AZ, data analysis for customer satisfaction study, subcontract with Howlett & Company, Phoenix, AZ.

DELCO, Rochester, NY, conducted two separate "After DACUM" workshops for various competency tests for plant workers, with NOCTI-IOCT Project, April 28-29, 1988, and July 7-8, 1988.

Nissan Motor Corporation in U.S.A., Gardena, CA, two day workshop on how to develop valid and reliable tests for instructional staff, May 12-13, 1988, with NOCTI-IOCT Project.

Robotic Technician Project, NOCTI, conducted "After DACUM" procedure for test development of robotic technician competency test; develop sections in final report that established national method for evaluating performance; compiled final report, July-October, 1988.

School of Pharmacy, Clinical Program, Development of Student Evaluation System for Clinical Rotations in Retail and Hospital Sites. Procedure involved conducting a DACUM to identify competencies, working with advisory committee to develop draft of the two instruments, pilot testing, and final versions of instruments, 1987-88.

Connecticut Assessment of Educational Progress (CAEP), with National Occupational Competency Testing Institute, Ferris State College, research consultant for CAEP project to test all drafting, small engine, and graphic arts students in Connecticut in 1986.

Vocational Education Counseling and Placement Services, Ferris State College, survey and needs assessment instrument design, 1985 with analysis of results and presentation of findings, 1986. The survey assessed the training needs of career-vocational counselors, job placement, and career resource center personnel in Michigan.

Leadership Development Project, Ferris State University, test development consultant, 1986. Provided assistance in the development, validation, and analysis of a 200 item competency test for entry-level vocational administrators in Michigan.

International Program, Ferris State University, project coordinator, Belize Program for Secondary School Administrators, coordinated the six week intensive program, Summer, 1985 and Summer, 1986.

International Program, Ferris State University, project coordinator, Belize Program for Primary School Administrators, coordinated the six week intensive program, Summer, 1986.

School of Technology, Ferris State University, "Instructional Effectiveness Program for New Instructors," planned and conducted workshops for newly hired instructors, 1985 and 1986.

Manufacturing Resources and Productivity Center, School of Technology, Ferris State University, "Operating/Programming Manual for Wells-Index System 3 Milling Machine," writer/editor of technical manual, 1984-85.

COMMITTEE INVOLVEMENT AT FERRIS STATE UNIVERSITY AND OTHER INSTITUTIONS

Selected Member, Ferris First, 2010

Member, Perkins IV Assessment and Accountability Advisory Group sponsored by the Michigan Department of Education, 2007 to present.

Co-Chair, Higher Learning Commission Team Member, Ferris State University responsible for data collection and management.

Panel of Judges, Michigan Quality Leadership Award program, 2004-present.

National Visiting Committee, Automotive Manufacturing Technical Education Collaborative (AMTEC), a project funded by the Advanced Technological Education program funded at NSF, April 4-5, 2007, Georgetown, KY.

Director, Michigan Center for Career & Technical Education (MCCTE-FSU), 2006 to present.

Second Education Committee for TEAC, 2006.

Dissertation Defense Committee, Western Michigan University, (FSU-WMU Cooperative doctorate), Completed—Dr. Deb Schultz (September, 2004) , Dr. Amy Wojciechowski (September, 2004) , and Dr. Dave Gaunt (May, 2005); current committee membership for Karen Kain

Proposal Development Team, New Leadership Degree customized for General Motors, Inc., 2005-2006.

FSU Presidential Appointment, Technology Task Force, 2005

Proposal Development and Lead Curriculum Development, Pro-Mo-TEd (Professional, Modularized Teacher Education Program) for alternative certification of CTE teachers

Proposal Development for New Option in MSCTE, Educational Technology, cooperative with Master of Science in Information Technology program, 2002.

Chair, Academic Program Review Committee, MSCTE Program, 2002

Chair, Faculty Search Committee, Off-Campus Faculty Position, 2002.

Faculty Coordinator for Application, College of Education & Human Services, Michigan Quality Leadership Award Application, 2000-2001. The application lead to the Navigator award level and the first universities in Michigan to win an award.

Proposal Development for New Certificate Program, Advanced Graduate Certificate Program for Total Quality Management in Education, 2000 (in cooperation with Western Michigan University)

Proposal Development for New Certificate Program, Advanced Graduate Certificate Program for Technology for Art Educators, 1998.

Graduate Faculty Coordinator for cooperative doctorate with Western Michigan University, Educational Leadership doctorate with emphasis in Career Technical Education, 2000.

Graduate Curriculum Committee, School of Education, Chair, 1999 and 2000; member 2001 and 2002.

Faculty Committee Member, MEd curriculum Proposal, 1998

Faculty Committee Member, Search Committee, Summer, 1998

Faculty Coordinator for Writing Application for FSU's Teacher Education Application, Michigan Periodic Review Council for Teacher Education Program, 1997. This is the NCATE-standard based program review by the Michigan Department of Education for all teacher education institutions.

Faculty Coordinator for Writing Application for Teacher Education's Academic Program Review Council Review, 1997. This is the periodic review by the university on all programs.

Team Chair, Michigan Periodic Review Council for Teacher Education Program, University of Michigan--Flint campus Site Visit, March 9-12, 1997.

Monitoring Team Member, Montcalm Career Center Evaluation for BST, Michigan Department of Education, January 15, 1997.

Faculty Coordinator, Center for Career and Technical Education, Periodic Review by the Michigan Department of Education, May, 1996.

Team Chair, Michigan Periodic Review Council for Teacher Education Program, Saginaw Valley State University campus Site Visit, October 5-9, 1996.

Team Chair, Michigan Periodic Review Council for Teacher Education Program, Michigan State University campus Site Visit, November 26-29, 1995

Team Chair, Michigan Periodic Review Council for Teacher Education Program, University of Michigan-Dearborn campus Site Visit, April 9-11, 1995.

Team Co-Chair, Michigan Periodic Review Council for Teacher Education Programs, Northern Michigan University Site Visit, Marquette, MI, November 6-9, 1994. (Joint Site Visit with NCATE)

Team Member, Michigan Periodic Review Council for Teacher Education Programs, Siena Heights College Site Visit, Adrian, MI, April 17-20, 1994.

College of Education Restructuring Task Force, 1994 to present.

Joint Doctorate Committee with Western Michigan University, Eastern Michigan University, and Wayne State University, representing Ferris State University, 1992 to 1994.

Board of Directors, American Society of Advanced Fuels Technology, Inc., elected Secretary, 1993 to 1995.

Quality Improvement Council, (appointed by Vice President for Academic Affairs), 1992-1994.

Fiscal Strategies Task Force (appointed by President), committee member, 1991-1993

Executive Board Member, Michigan Council of Vocational Leaders, representing four-year institutions, 1991 to 1993.

Women in Ferris Leadership Project, "Lifting As We Climb," committee member, 1988-1989

Ex-Officio Member (representing Vice President's Office), University Curriculum Committee, 1987-1990.

Member, Deans' Council, Ferris State University, 1987 to 1989.

Executive Board Member and non-voting member, Faculty Senate, Ferris State University, 1986. (Immediate Past-President)

Subcommittee Member, Organizational Review Committee, Faculty Senate, 1986.

Subcommittee Member, Academic Review Committee Reorganization, Faculty Senate, 1986.

Chairperson, Educational Planning Committee, 1986. (Elected)

Member, Academic Affairs Council, Ferris State University, 1986.

Member, Dean of School of Education Search Committee, 1986.

Member, Ferris State University, Tuition Policy Committee, 1986.

Member, School of Education, Ferris State University, Computer Committee, 1986 and continuing.

Elected Member, Educational Planning Committee (E.P.C.—elected by peers) 2 year term beginning September, 1985.

Long Range Planning Subcommittee of E.P.C., 1985 and 86.

Member, Distinguished Teacher Award Selection Committee, 1985-86.

Member, North Central Association of Colleges and Schools Accreditation Self-Study Committee on Faculty Development, Research, and Scholarly Activities, 1985.

Selected Other Volunteer Services

Member, School of Nursing, Curriculum Committee, 1985-1986.

Member, School of Nursing, Research Committee, 1985-1986.

Member, Dean of School of Education Search Committee, 1986.

Center for Occupational Education, Ferris State University, Long Range Plan Development, July, 1985.

Judge, Vocational Industrial Clubs of America (VICA), national competition, May 20, 1985.

Chairperson, Dean of Students Search Committee, Dalton Junior College, January, 1984.

Coordinator, Georgia Occupational Award of Leadership (GOAL), Dalton Junior College, 1983 and 1984.

State Evaluation Team Member, Clayton Junior College, Atlanta, GA, March 6-8, 1984.

State Evaluation Team Member, North Georgia Technical and Vocational School, April 19-21, 1983.

Proposal Review Team, Sex Equity Office, Virginia Department of Education, July, 1981.

SELECTED WORKSHOP ATTENDED

- Conference—National Career Pathway Network (NCPN) Conference, Dallas, TX, October 28-30, 2015.
- Conference--Advanced Technological Education (ATE) Principal Investigators Conference, (American Association of Community Colleges), Washington, D.C. October 21-23, 2015.
- Pre-Conference—Conference for Adult and Experiential Learning (CAEL), *Competency-Based Education and Assessment*, November 11, 2014, Chicago, IL.
- Conference—Conference for Adult and Experiential Learning (CAEL), 2014 International Conference, Mobilize Learners—Revolutionize Assessment, Chicago, IL, November 12-14, 2014
- Conference--Advanced Technological Education (ATE) Principal Investigators Conference, (American Association of Community Colleges), Washington, D.C. October 22-24, 2014.
- Conference—National Career Pathway Network (NCPN) Conference, Orlando, FL, October 12-14, 2014
- Conference—Association of Career & Technical Education, Best Practices Conference, Discovering Best Practices and Innovations in Career and Technical Education, Cape Cod, MA, September 17-19, 2014.
- Conference—HI TEC (High Impact Technology Exchange Conference), Educating America’s Technical Workforce, July 21-24, 2014, Chicago, IL
- Pre-Conference, ACTE Career Visions Conference, *How to Significantly Increase Enrollment, Retention and Performance—Now!*, Mark C. Perna, Tools for Schools, Las Vegas, NV, December 2, 2013.
- Conference--Advanced Technological Education (ATE) Principal Investigators Conference, (American Association of Community Colleges), Washington, D.C. October 23-25, 2013.
- Pre-Conference—*Strategies for Meaningful Interpretation of ATE Evaluation Data*, Advanced Technological Education (ATE) Principal Investigators Conference, (American Association of Community Colleges), Washington, D.C. October 23, 2013.
- Conference—National Career Pathways Network Conference, San Antonio, October 14-15, 2013.
- Pre-Conference—*Technology-Infused Classroom*, NCPN, San Antonio, October 13, 2013.
- Conference-- High Impact Technology Exchange Conference (HiTEC), July 22-24, 2013, Austin, TX
- Pre-Conference—*Business Intelligence and Analytics Tools*, High Impact Technology Exchange Conference (HiTEC), July 22, 2013, Austin, TX
- Conference—National Council for Workforce Education (NCWE) Conference, October 20-23, 2012, Long Beach
- Pre-Conference--*National Association Career Pathway Leadership Forum*, National Career Pathway Network (NCPN), October 17, 2012, Richmond, VA
- Pre-Conference--*iPads: Advanced Uses for the Classroom*, National Career Pathway Network (NCPN), October 17, 2012, Richmond, VA

Pre-Conference, *Embedding Common Core Reading and Writing Assignments into CTE Instruction*, Best Practices and Innovations in Career and Technical Education, Richmond, VA, October 10, 2012.

Pre-Conference, *Embedding Common Core State or Other Rigorous Standards for Mathematics into CTE Instruction*, October 10, 2012, Richmond, VA

Pre-Conference, *ATE Evaluation: Measuring Reaction, Learning, Behavior, and Results*, American Association of Community Colleges (AACC), Advanced Technological Education-Principal Investigator (ATE-PI) Conference, October 24, 2012, Washington, D.C.

American Association of Community Colleges (AACC), Advanced Technological Education-Principal Investigator (ATE-PI) Conference, October 24, 2012, Washington, D.C.

Conference—STEMtech October 27-31, 2012, Kansas City, MO

Conference—Stem Learn and Earn Summit II and Innovations Pavilion: A Vision for 21st Century Education, October 1-2, 2011, Indianapolis, IN

Training, American National Standards Institute (ANSI), Certificate Issuers' Accreditation: Understanding the Requirements of ASTM E2659-09, June 29-30, 2011

The two-day workshop is designed to introduce interested stakeholders to the American National Standard ANSI/ASTM E2659-09 and the requirements for developing a quality education/training course that has an assessment at the end to determine if the learning outcomes have been achieved. It will cover such areas as: terminology, significance and use of the standard, requirements for certificate issuers, and certificate program and certificate issuance and use.

Training, American National Standards Institute (ANSI), Personnel Certification Accreditation: Understanding the Requirements of ANSI/ISO/IEC 17024, June 27-28, 2011

This workshop is designed to introduce organizations that are considering accreditation by ANSI to the international standard ANSI/ISO/IEC 17024 - General requirements for bodies operating certification schemes for persons. This International Standard, which has also been nationally adopted as an American National Standard, is a globally accepted benchmark for bodies managing the certification of persons. This standard is being increasingly recognized by the U.S. federal government, the certification industry, and organized labor.

July 29-30, 2010 National Renewal Energy Lab and Department of Energy, Denver, CO, NREL/DOE Community College Forum, Invited Participant.

2010, Association for Career and Technical Education, Las Vegas, NV, December 2-4, 2010

2010, NOCTI, Pre-Conference, ACTE, Las Vegas, NV, December 1, 2010.

2010, March 9, Webinar, Integrating CTE and Academics, by Tom Venezio, International Center for Leadership in Education, NY

2009, Association for Career and Technical Education, Nashville, TN, November 19-21, 2009

2009, NOCTI, Pre-Conference, ACTE, Nashville, TN, November 18, 2009.

2009, International Society for Performance Improvement, Orlando, FL, April 20-22, 2009

2008, Association for Career and Technical Education, Charlotte, NC, December 4-6, 2008.

2008, NOCTI Pre-conference, ACTE, Charlotte, NC, December 3, 2008.

2007, Association for Career and Technical Education, Las Vegas, NV, December 13-15, 2007.

2007, NOCTI, Pre-conference, ACTE, Las Vegas, NV, December 12, 2007.

2007, National Career Cluster Institute, Phoenix, AZ, June 10-13, 2007.

2007, Michigan Summit on Model High School, (Willard Daggett), April 15-17, 2007, Traverse City, MI

2007, 12th Annual Governor's Education Summit in Lansing, March 26, 2007.

2007, Michigan Career Conference, Detroit, February 11-13, 2007.

2006 Association for Career and Technical Education, Atlanta, GA, November 30-December 1-3, 2006.

2004 Michigan Career Education Conference, "Teaching & Learning for Excellence", February 9-10, 2004.

2003 National Teacher Education Institute for Career & Technical Education, "Pathways to the Future: Preparing and Developing Secondary and Postsecondary CTE Teachers." Scottsdale, AZ February 3-5, 2003.

2003 Baldrige Presidential Award Ceremony, Washington, DC., April 17, 2003.

"Leadership: The Bridge to Change with Peter Senge", Scottsdale, AZ. TW Brawun & Associates, February 6-8, 2003.

"2002 Baldrige Regional Conference," October 2, 2002, Ritz Carlton Hotel, Dearborn, MI

"The 7th Annual Academic/Career/Technology Integrated Curriculum Conference, April 17-19, 2002, Las Vegas, NV, sponsored by the National Schools Conference Institute,

"Brain Research," Robert Sylvester, Ferris State University, March 22, 2002.

"Tegrity Web Learner Training", Big Rapids, MI, (one of five faculty chosen to be trained on the system) November 16, 2001.

"Malcolm Baldrige Quality Leadership Award Examiner Training", May 1-4, 2001, Gathersburg, MD. Selected to be on the Board of Examiners for 2001.

"Michigan Quality Council Leadership Award Examiner Training", May 19-21, 1999, April 4-6, 2000, and April 4-6, 2001, Auburn Hill, MI. Selected to be on the Board of Examiners for 1999-2001 and senior examiner for 2000 and lead senior examiner for 2001, 2002.

"Making Connections--Chrysler Project" Oakland Schools, March 16-19, 1998.

The Curriculum Integrator, sponsored by the Center for Occupational Research and Development (CORD), October 1-2, 1997, Nashville, TN.

Langford's "Quality Learning Seminar", Langford International, September 23-26, 1997

"Effective Schools Conference—The Total Quality School", February 22-25, 1996, Phoenix, AZ

"Accelerated Learning," Milwaukee, WI, May 9-11, 1994.

"Periodic Review of Teacher Education Institutions," Additional Training for Pilot Team, January 24, 1994, Lansing, MI.

"Money and You," Austin, Texas, November 11-14, 1993, sponsored by the Innovative Learning, Inc., Austin, Texas.

"Periodic Review of Teacher Education Institutions," Team Training, July 7-9, 1993, Lansing, MI.

"Creating the Total Quality Effective School," with Dr. Lawrence W. Lezotte, May 13, 1993, Grand Rapids. Sponsored by Michigan Institute for Educational Management.

"Dr. W. Edwards Deming Four Day Seminar," February 9-12, 1993, Novi, MI. Sponsored by Ford Motor Company.

"Total Quality Management in Higher Education," January 25-26, 1993, Atlanta, GA. Sponsored by International Quality and Productivity Center, Upper Montclair, NJ.

"Discipline With Dignity," Michigan Institute for Educational Management, Lansing, MI, November 13, 1992.

"Total Quality Approach to Improving Outcomes, " Michigan Institute for Educational Management, Lansing, MI, February 11, 1992.

International Conference on Restructuring Curriculum-Assessment-Teaching for the 21st Century, sponsored by the National School Conference Institute, Phoenix, AZ, January 16-19, 1992.

"School Improvement--The Second Generation" Larry Lezotte, Lansing, December 9, 1991.

"Quality Schools--Managing without Coersion" William Glasser, Novi, November 19, 1991.

"Innovative Innovations," Tom Guskey, March 7, 1991.

"Flawless Consulting," Peter Block and Larry Lezotte, August 27-28, 1990

"Outcome-Based Education Conference," National School Conference Institute, Phoenix, AZ, February 8-11, 1990.

"Teacher Expectations and Student Achievement," Michigan Institute for Educational Management, Grand Rapids, MI, May 15, 1989.

"Planning for School Improvement based on Effective Schools Research," (Dr. Larry Lezotte, Presenter) Michigan Institute for Educational Management, Traverse City, May 4, 1989.

"School Improvement Institute, 1989," Association for Effective Schools, Inc., October 18-21, 1989, Saratoga Springs, New York.

"Evaluating Teacher Performance," (Dr. Thomas McGreal, Presenter) Michigan Institute for Educational Management, Grand Rapids, MI, April 13, 1989.

"Strategies for Assessing Outcomes," University of Tennessee-Knoxville, Knoxville, TN, November 14-15, 1988.

"Trends in Occupational Education," Traverse City, MI, 1986, 1987, 1988, 1989.

"Michigan Occupational Education Association Annual Conference," Lansing, MI, 1985, 1986, 1987, 1988, 1989.

"Mastery Supervision with Madeline Hunter," Sponsored by Teacher Effectiveness Associates, August and October, 1988 (10 days of training)

"The Third National Conference on Assessment in Higher Education," Chicago, Illinois, June 8-11, 1988

"SPSS (Statistical Package for the Social Sciences) Refresher Training" at Ferris State College by SPSS, Inc., January 9-10, 1987.

"Instructional Theory Into Practice (I.T.I.P.) at Big Rapids Public Schools, 4 days of training, November 11, 20, December 3 and 10.

"Community College Partnerships, The High School/Community College Connection," sponsored by American Association of Community and Junior Colleges, National Video Teleconference, at Grand Valley State College, September 30, 1986.

"Managing Policy Through Policy Science," by Dr. Dan Vogler, at Ferris State College, July 24, 1986.

"Using Microcomputers in Educational Research," sponsored by University of Michigan, Ann Arbor, June 30-July 1, 1986.

American Society for Training and Development Conference, St. Louis, MO, May 31-24, 1986.

"Michigan School Testing Conference," University of Michigan, Ann Arbor, MI, February 26, 1986.

"Lotus 1-2-3 on the IBM PC," Grand Rapids Jr. College, March 14, 1985.

"Employability Skills Training of Trainers," Oakland Continuing Education, in Lansing, April 19-20, 1985.

"A Research Synthesis of Higher Order Thinking Skills-Developments in Public Education," by Dr. Stewart Rankin (Detroit Public Schools), May 3, 1985.

"Michigan Vocational Coordinators Conference," June 20-21, 1985, Sugar Loaf, MI.

"National Center for Research in Vocational Education, monthly staff development luncheons on various topics of national significance to vocational education.

Personal tour and curriculum development discussions at Ft. Gordon Signal School, Augusta, GA, January 27-28, 1983.

"Build an Image of Confidence," Dalton Junior College, Continuing Education Department, March 3, 1983.

"Corporate Financial Support for Technical Training," GA Advisory Council of Vocational Education, Atlanta, May 24, 1983.

"Second Look: Displaced Homemaker Project Workshop," Nashville, TN November 11-12, 1980. One of two individuals selected by the Virginia Director of Vocational Education to represent Virginia at this national meeting.

DISSERTATION COMMITTEES

Allen, Patricia, "Career and Technical Education and the Malcolm Baldrige Quality Award in Education," Western Michigan University, Educational Leadership, Research and Technology, Defense Date, July 20, 2014.

Kain, Karen, "Determining Characteristics that Increase Success on the National Asthma Educator Certification Exam," Western Michigan University, Teaching, Learning and Leadership, Defense Date, November 1, 2010

Feutz, Michael, "The Phenomenology of the Bachelor of Science in HVAC Engineering Technology from Ferris State University," Western Michigan University, Educational Leadership, Research and Technology, Defense Date October 11, 2010

Gaunt, David P., "High School Seniors' Perceptions of Career and Technical Education and Factors Influencing their Decision to Attend an Area Career Technical Center, Western Michigan University, Teaching, Learning and Leadership, Defense, May 6, 2005.

Wojciechowski, Amy J., "The Relationship Between Student Characteristics and Success in an Online Business Course at West Shore Community College," Western Michigan University, Teaching, Learning and Leadership Defense Date: September 10, 2004

Schultz, Debra Scott, "A Model for Using the National Board Dental Hygiene Examination Results as a Method of Outcomes Assessment," Western Michigan University, Teaching, Learning and Leadership, Defense Date: September 20, 2004

CURRENT PROFESSIONAL MEMBERSHIPS

Association for Supervision and Curriculum Development (ASCD), Premier Member
American Career and Technical Education Association (ACTE)
American Society for Training and Development (ASTD)
Michigan Education Association (Ferris Faculty Association)
Michigan ACTE
Skills USA
Phi Delta Kappa (educational honorary)
International Vocational Education and Training Association (IVETA)

APPENDIX G VITAE F. Michael Ennis

Vitae

F. Michael Ennis, Ph.D.

EDUCATION

Doctorate of Philosophy. Major: Administration. Dissertation: *Ohio Joint School Administrators' Perceptions Regarding the Importance and Use of Total Quality Management*. Ohio State University, Feb. 1996.

Master of Science. Thesis: *The Prioritization of Agricultural Education Teachers Responsibilities as Perceived by Secondary Vocational Administrators and Agricultural Education Teacher*. Michigan State University, Extension Education. June. 1991.

Bachelor of Science & Teacher Certification. Michigan State University, Dec. 1985.

PROFESSIONAL EXPERIENCE

Ferris State University – Professor - Career and Technical Education

The position requires online and face-to-face teaching of educational foundations, research methods and evaluation, educational technology, teaching methods, curriculum development, student assessment, instructional planning and practice. The courses taught include: EDUC 501, 502, 503, 504, 511, 516, 540, EDUC 205, 206, 289, 303, 338, 339, 400, 430, ECTE 500, 504, 516, EDGP 320-322, 325-327, 400-401, 439 and ISDL 840 in the Community College Doctorial Leadership program. A total of 29 courses have been taught and revised during this period. Additional responsibilities include school, college and university committee memberships, program review and teacher certification updating, technology applications, research and service to the internal and external community. Aug. 2005 to present: Dr. Arrick Jackson, (231) 591-3648.

Mott Community College (MCC) – Curriculum Research Specialist and Teacher Education Program Coordinator & Adjunct Faculty Member

The position at MCC contained a wide variety of responsibilities including: conducting needs assessments and academic review process for programs and disciplines, assisting in developing new programs and course offerings, representing MCC at external professional organization meetings, and creating articulation program agreements between K-12, community college and university programs. Curriculum development activities included DACUM and WIDS trained to assist in and create curriculum aligned with internal and external standards and create distance learning courses using Blackboard and in-class instruction. Special projects included: An Analysis of Developmental Math Courses, Educator Preparation Transfer Study, Open Entry/ Open Exit Study, Manufacturing Labor Market Report and College Transfer Studies. The teaching responsibilities included developing and offering Introduction to Education EDUC 240, Paraprofessional Education EDPP 101, and EDPP 102 through in-class and online formats. Aug. 2001 to July, 2005.

Mott Community College - National Science Foundation Project Manager & Teacher Education Transfer Coordinator

The NSF project manager responsibilities focused on curriculum development and project management activities for a \$350,000 NSF Manufacturing Simulation Technology grant and contributor to a second \$750,000

NSF project for advanced activities. The Teacher Education Program Director position required developing a teacher preparation program through Mott Community College and 4 – year teacher certification programs. The positions required a wide range of administrative activities including research, grant writing, transfer and articulation issues, educational program development, and negotiating. Additional activities included computerized curriculum development, institutional research, web page development, marketing and promotion and writing draft legal contracts. Aug. 1998 to 2001. Mr. William Angus - retired, (810) 762-5698 & Mr. James Drummond – retired, (810) 232-2812.

Eastern Michigan University – Adjunct Lecturer

The Adjunct Professor position required the development and instruction of two graduate level educational technology and research methods courses both in an online format and in-class using the E-College system. Jan. 1, 1999 & Sept. 2003. Dr. James Berry, (734) 487-0255.

University of Michigan - Flint, Program Evaluator

The evaluator position was funded by a H.U.D. Grant in cooperation with The North Flint Twenty-First Century Communities, the Community Outreach Partnership Center Program and Flint Community Schools. Responsibilities included developing an evaluation plan, constructing data collection instruments, and compiling intermediate and final evaluation reports. Sept. 1997 to 2000. Project Coordinator: Dr. Kristin Skivington, (810) 767-7030.

University of Michigan - Flint, Visiting Assistant Professor College of Education and Human Services (CEHS)

The Visiting Assistant Professor position in the CEHS required teaching pre-student teaching course work for undergraduate students, curriculum development, instructional delivery, classroom management, and assessment. Classes taught included Research Methods, SWK 250 – 9 years of online experience using the Blackboard and e-College systems. Educational Psychology, EDU 301, Sociology of Education, EDU 302, Multicultural Education, EDU 438, Interaction Laboratory, EDU 303, and Tutor Aide Field Placement, EDU 304. Additional responsibilities included placing students in urban classrooms, monitoring progress, troubleshooting, and acting as the coordinator for the Tutor-Aide Program with other visiting professors. Jan. 4 to 1996 to present, Dr. Kathleen Woehrl, (810) 762-3390.

Ohio State University - Technology Resource Person & Extension Researcher

The Extension Administrative Researcher responsibilities included teaching, computer support and research. Teaching responsibilities included single tutoring sessions on the use of computers and classroom presentations to students, faculty and administrators. Computer support responsibilities included system setup, software installation, repair, and troubleshooting. Research activities consisted of design, instrumentation, data collection, analysis and report writing. Research projects included: Total Quality Management Training for Licking County Government, Community Economic Professionalism Study, Lodi Community Survey, Peabody Coal Miner Study, and Signage for Small Business. Employment. Dec. 1993 to July 1995. Ohio Extension Associate Director: Dr. John Rohrer, (614) 292-8436.

Ohio State University - Research Associate

Graduate Research Associate responsibilities included research design, desktop publishing, instrumentation, computerized data collection, data analysis and report writing. Research projects included: a national Delphi study of education programs and comparative analysis of information access for small businesses in Ohio and Wales, England. Jan. 1993 to Dec. 1993. Project Director, Dr. Larry Miller, (614) 292 - 6671.

Ohio State University - Computer Instruction Coordinator

The coordinator position required maintaining a computer laboratory containing both Macintosh and DOS

based personal computers. Other responsibilities included computer setup, troubleshooting and repair, software installation, establishing E-mail accounts, and individual tutoring of faculty and staff. 1993 - 1994. Dr. Nolan Rindfleisch, (614) 292-6288.

Michigan Department of Education & Michigan State University – In-Service Developer

Multiple positions held at the *Michigan Center for Career and Technical Education* required the development and utilization of a variety of skills and responsibilities. Responsibilities included: accessing computer databases, determining occupational employment projects, constructing conference displays, developing marketing plans, assisting with teacher in-service activities, developing curriculum materials and constructing competency based education materials. Additional activities included: developing quality standards for instruction, desktop publishing a variety of newsletters and special publications, conducting research, and providing administrative support materials and information for secondary and postsecondary education administrators. These skills were utilized in the following projects: Educational Products Marketing, State of Michigan Technical Education Cluster Standards, National Network for Curriculum Coordination in Vocational and Technical Education Conference, Project Education Designed for Gainful Employment (EDGE), National Federation of Independent Businesses, UMI Microbot Inc., Vendor Link Database, United Auto Workers & General Motors, American Builders and Contractors, Huron Valley Women's Correctional Facility, Michigan State Department of Education. Sept. 1989 to Aug. 1993. Dr. Gloria Kielbaso, (517) 353-4397.

Michigan State University – In-Service Coordinator

Responsibilities of the in-service coordinator position at the Michigan Vocational Education Personnel Development Project included: conducting research, organizing focus groups, designing educational programs, coordinating educational in-service logistics, evaluation and report writing. The responsibilities were utilized in the following projects: statewide educational needs assessment, 90 in-service activities involving 120 presenters and 2000 participants, program review, and private in-service activities. A sample of in-service topics included: Fundamentals of Digital and Microprocessor Based Systems, Unibody Frame Repair and Measuring, Teaching Skills, and New Techniques in Energy Efficient Construction. Employment dates: Sept. 1986 to May 1989. Dr. George Ferns, (517) 482- 3634.

PROFESSIONAL ACTIVITIES

External Professional Service:

State of Michigan CTE Rules Revision Committee 2014-2017

Technology Integration and Tools – PD Presenter LISD, Aug. 2014

CTE Technology PD Presenter, Roscommon ISD, Sept 2013

Genesee Area Skill Center Advisory Committee Member, FSU Representative, 2009-2013

Early Childhood Advisory Committee, FSU Member for Mott Community College, 2010-13

Evaluation Contributor to RFP: The Advanced Nuclear Welding (ANWT) Program: NSF ATE. Mott Community College. Oct. 2008

STAR Minority Teacher Recruitment Program Evaluator, Mott Foundation Sponsored Project, Flint, MI 2007-2008

Michigan Association for Community College Educator Preparation (MACCEP) Conference Committee Member and Conference Organizer, 2002-2008

MACCEP, Member at Large and Secretary and Treasurer, 2004-2008

AERA) Proposal Review Board Member: SIG Career and Technical Education and Problem Based Learning SIG. 2005 - 2008

Interviewee, Concept Mapping Doctoral Research Study, Bonnie Heckard, Doctoral Candidate Educational Leadership, Central Michigan University July 2, 2007

MACCEP Response to the State Board of Education Draft of Teacher Certification Code. Feb 2, 2006

Submitted MACCEP Organizational Response to Changes in MDE Teacher Code 2006
National Association for Community College Teacher Preparation. (NACCTEP) Proposal Review Committee Co-Chair 2006
NACCTEP Conference, Proposal Reviewer, 2004 -2005
Contributed Lesson Materials to NACCTEP's Materials Learning Exchange, (MLX), June 2005
Planning Committee, State-Wide Day of Dialogue Conference 2002-2004
Charter Organization Committee Member for the Michigan Association for Community College Educator Programs, Lansing, Michigan, Winter 2003-04
National Science Foundation ATE Proposal Reviewer, Washington, DC. 2003
Faculty Scholarships and Grants Committee, University of Michigan – Flint 2003
Michigan Department of Education and Michigan Department of Career Development Community College Partnership Committee, 2002-2003
Articulation and Transfer Committee, Mott Community College, 2001-2003
Web-Page Development Committee, Mott Community College, 2002-2003
Michigan Education Association – Educational Support Personnel Certification Project 2002-03 Committee Member
Program Review and Development Committee, Mott Community College, 1999-2003

Professional Organization Memberships:

Association for Career and Technical Education Member, 2015-2017
American Education Research Association, Member, 1999-2012
Michigan Association of Community College Educator Programs – Past President - 2002-2015
Michigan Association of Teacher Educators, Member, 2007-2008
Michigan Association of Computer Users in Education, Member. 2008
National Association for Community College Teacher Education Programs, Member, 2002-2004 & 2008

Conferences Attended/ Professional Development (Not presenting)

Cayuse Training IRB 2016
NIH Human Subjects Training and Certification – valid from 2016-2018
CITI IRB Training – Social Sciences – valid from 2014-2019
Michigan CAEP Meeting, Hope College, MI 2017
CAEP St. Louis, Conference, March 2017
CAEP San Diego, Conference, Feb, 2016
CETE Ohio State Test Development Workshop, Aug. 2-7, 2013
Oakland University and Beaumont Health System: Strategies for Optimizing the Protection of Human Participants in Research May 2013
University of Maryland COAT, 6-week training on Online Learning Certification, 2012
Michigan Department of Education CEPD Update, Lansing, MI, Nov 2011
The Enduring Power of Great Teaching, 3rd Annual Student Academic Success Summit – Jeffrey Zaslow, University of Michigan - Flint, Oct 17, 2008
Day of Dialogue VIII: Changes in Teacher Education: Standards and Technology. Monroe Community College. Michigan Association for Community Colleges. March 14, 2008
Center for Teaching and Learning Winter Conference: Maximizing Student Success with Strengths – Yours and Theirs. Participant. Flint, MI., Feb 29, 2008
Increase Enrollment, Retention and Student Success with Web-Based Class Capture: Campus Technologies. March 3, 2007
Live-Text Training. Attended Training Session with Dr. Virginia Hines in Oct. 2007
Peer to Peer Distance Learning Workshop. Sponsored by Mott Community College. May 18th 2007
Engaging Students at Higher Cognitive Levels Conference. Dr. Susie Whittington, The Ohio State University, Flint, Michigan, Nov. 2, 2007
How to Teach so Students Remember, Ferris Faculty Center for Teaching and Learning. Terry Doyle.

Sept 2007. Banner Training Feb 28, 2006
 Banner Training, Ferris State University. Feb 28, 2006
 Update Meeting with State Vocational Consultant, Randy Showerman at Michigan State University March 31, 2006
 Center for Teaching and Learning Winter Conference: Teaching Critical Thinking. Participant. Flint, MI., Feb 29, 2006
 Student Academic Success Summit: Promoting a Culture of Student Success: The First Year and Beyond; Dr John Gardner. University of Michigan-Flint. Oct. 13, 2006
 DARTEP and Vocational Certification Meetings. 2005-2006
 Attended “School Reform from the Inside Out: Policy, Practice, and Performance” by Richard Elmore at UM-Flint March 14, 2006
 Submitted MACCEP Organizational Response to Changes in MDE Teacher Code 2006
 Ford World Headquarters NSF Meeting on Sustainable Engineering. Dec. 14, 2005
 Inaugural New Faculty Orientation Week. Aug. 15-19, 2005
 Association for Career and Technical Education, Participant, Kansas City, MO. 2005
 DACUM Training. The Ohio State University. Feb. 9-13, 2004
 National Conference on Community College Policy in Teacher Education, Participant, Steamboat Springs,

Conference Presentations

Michigan Career Education Conference, Tech Tools Update, Feb 3, 2015-2017
 Michigan Career Education Conference, Promoted A Route to CTE Teacher Certification, Feb. 2015
 Michigan Career Education Conference, Technology to Support CTE Instruction, Feb. 2014
 Michigan Career Education Conference, Promoted, Ennis & Besemer, Feb. 2014
 NCPN Conference, San Antonio, TX, Technology Resources to Create Impact on CTE Instruction Oct. 2013
 Lilly Conference: Technology to Support Instruction, Oct 2013
 Michigan Career Education Conference, Technology to Support CTE Instruction, Feb. 2013
 Michigan Career Education Conference, Reaching Out to Support CTE Instructors Promoted, Ennis & Besemer, Feb. 2012-13
 Great Lakes Conference on Teaching and Learning, Choosing Online Tools to Enhance Instruction, Central Michigan University 2013 F. Ennis & Christine Conley-Sowels
 Michigan Career Education Conference, What’s New Online to Support CTE, Ennis & Showerman, Feb. 2012
 Community College Interdisciplinary Research Forum: Research and Innovation for the 21st Century – Community Colleges in the 2010’s, University of Michigan: What’s the Role of Community Colleges in Preparing Educators? MACCEP Panel Presentation. May 2011
 Michigan Career Education Conference, Promoted: A Unique Approach to CTE Certification Through Cohort Development. Ennis and Besemer, Feb. 2011
 Michigan Career Education Conference, New Online Support for Academic and CTE Integration, Ennis & Showerman, Feb. 2011
 Michigan Career Education Conference, Academic and CTE Models and Resources, Ennis, Feb. 2010
 Michigan Career Education Conference: Online Academic Support for CTE, Ennis & Showerman, Feb 2009
 Michigan Career Education Conference: Promoted – Alternative Certification for CTE, Ennis & Bessemer, Feb. 2009
 Michigan Council on Exceptional Children Conference: Using the Internet to Enhance Instruction. Co-Presenter with Dr. Christine Conley-Sowels. Feb. 28, 2008
 Curriculum Connections Using New Technology. Michigan Career Education Conference, Detroit, MI. Feb 10-12, 2008
 Career Education Conference: Michigan 2008. Curriculum Connections Using New Technology. Feb 11, 2008
 Creating a Statewide Community College Educator Preparation Inventory to Support State-Level Policy, Mott Community College. 2008
 Transfer Culture Shock: LAND Conference Co-Presenters: Sophie Jeffries, Mary Belknap, Mary Lou Kata, Nancy Reddy, Cynthia Cicchelli. Feb 27, 2007

Internet Video to Enhance CTE Instructional Delivery. Michigan Career Education Conference, Detroit, MI, co-presenter: Dr. Amy Kavanaugh, Feb. 11-13, 2007

Academic Integration: Lessons from the Past for the Present. Michigan Career Education Conference, Detroit, MI, Feb. 11-13, 2007

The Use of Online Video in Teacher Preparation. Michigan Association of Teacher Education: Conference on Excellence in Teaching and Learning: Excellence Preschool through Graduate School. Bay Valley Resort, Bay City, MI. Co-presenters: Dr. Amy Kavanaugh & Dr. Christine Conley-Sowels, Oct. 26-27, 2007

Internet Based Media to Enhance Instruction: Lilly Conference On College and University Teaching, Co-Presenters: Dr. Kathleen Woehrle and Dr. Amy Kavanaugh. Traverse City, MI. Oct. 4, 2007

Alternative Educator Opportunities. MACCEP. Jackson Community College. Jackson, MI. March 30, 2007

Macomb ISD Teacher In-service Presentation. May 24, 2006

Presentation at the MACCEP Day of Dialogue “Non-Teacher Certification Options” Grand Rapids, MI. 2006

MACCEP Day of Dialogue “Non- Cert Teaching Options” Schoolcraft Community College. March 30, 2006

Michigan Career Education Conference Presentations:

- An Innovative Alternative Approach to Certifying CTWE Teachers. Role: Main Presenter: Dr. Katherine Manley and Co-Presenter Dr. Cheryl Thomas.
- Using the Malcolm Baldrige Performance Criteria to Improve Program Outcomes. Main Presenter: Dr. Katherine Manley and Co-Presenter Dr. Cheryl Thomas.
- Finding the Yellow Brick Road: Curricular and Articulation Pathways – Role: Main Presenter Dr. Ennis and Co presenters Dr, Katherine Manley and Co-Presenter Dr. Cheryl Thomas. Grand Rapids, MI. Feb. 2006

MACCEP Learning Exchange - “Articulation Agreement Process Improvement Cycles” Clinton Township, MI. Sept. 30 2005

MACCEP Day of Dialogue “Non-Teacher Certification Options” Grand Rapids, Oct., 2005

MACCEP Day of Dialogue “Articulation Agreement Process Improvement Cycles. Grand Rapids Community College. Sept. 30, 2005

NACCTEP National Conference. - Articulation and Partnerships in Community College Educator Programs. New York, NY. Feb. 2005

No Child Left Behind – WorkKeys in Michigan: Invited Panelist. Michigan Department of Education, Macomb Community College. 2003

NACCTEP Conference: Preparing for Collaboration or Preparing for Battle? Phoenix, AZ, 2003

Program and Discipline Review Process: Occupational Trends Conference: Traverse City, MI, 2002.

Space Allocation Process or Oklahoma Land Grab: Occupational Trends Conference: Traverse City, MI, 2002

Urban League of Flint: How Wide the GAP: The Condition of Blacks in Flint, Michigan: 25 Years Later. Press Conference Jan. 2002

Networking for Competency Based Education, National Competency Based Education Conference, Proposal Accepted, Columbus, OH. June 14 - 17, 1992

Integration of Resources through Science Curriculum Development Using PEAKS Software, Michigan Science Teachers Association Conference. Lansing, MI. Feb. 1992

Informational Networking, National Career Education Conference, Nov. 1991 Cincinnati, OH.

AAAE National Poster Session, American Vocational Association Conference, Los Angeles, CA. Dec. 1991

AAAE Regional Poster Session, AAAE Regional Conference. Springfield. IL, June 1991

National Curriculum Coordination for Vocational Technical Education Conference: Conference Organizer. Dearborn, MI. June 16 - 19, 1991

Survey Your Educational Needs, Michigan Business Educators Association. Traverse City, MI. Oct. 1990

Educational Resources Through the Michigan Center for Career and Technical Education, Michigan Career Counselors Education Conference. Battle Creek, MI. Sept. 1989

Ferris State University College of Education and Human Services Committee Membership:

Director Search Committee - Member 2017
College of Education and Human Services Tenure Committee 2016-2018
School of Education Tenure Committee Chair 2016-2018
CAEP Standard 3.0 Committee Chair 2016-2017
College Diversity Committee, 2013-2015
APRC Secondary Education Committee, Chair, 2013-14
APRC Doctorate in Community College Leadership Program Review, Member, 2013-2014
Comprehensive Interviews and Presentations, Reviewer, 2013
University Graduate and Professional Council of the Academic Senate Member, 2011-2015
LTAB Committee Member, 2012-15
Search Committee Member three faculty and staff searches – (Elementary Methods and DCCL staff) 2013
Sabbatical Committee, Chair, 2012-13
Sabbatical Committee, Member, 2011-2012
COEHS Diversity Committee, Member, 2012
COEHS Curriculum Committee, Member, 2009-2012
School of Education Curriculum Committee, Chair, 2009-2010
Graduate Curriculum Committee Secretary, 2009-2010
Graduate Curriculum Committee, Member and Secretary, 2005-2012
Search Committee for Elementary Education Position, Chair 2011
ProMoTed Committee, Member, 2008-Present
Bachelor of Science, Secondary TCP Academic Program Committee, Member, 2008-2009
Master of Education C&I, Academic Program Committee, Member, 2008-2009
TEAC Committee, Member, 2008
Master of Science, Career and Technical Education, Academic Program Review Committee, Member, 2008
Search Committee Special Education Position, Member, 2008
Advised Troops to Teachers Students 2006-Present
Graduate Curriculum Committee, Secretary-3 years, member 1 year, 2004-2008
Graduate Student Dispositions Policy Committee, Member 2007-2008
Graduate Student Handbook Committee, Member 2008
Graduate Student Orientation, Participant, - Fall Semesters, 2005-2008
Graduation Ceremony Representative-Flint, 2005-2011
International Teacher Assignment, EDUC 400 Face to Face in Winnipeg Manitoba for UCEL Summer 2006
Interview Committee, UCEL Program Specialist Position Member, April 2007
Bachelor of Science, Training in Business and Industry, Chair, Academic Program Review, 2006-2007
MDE Vocational Certification Meetings, Representative, Lansing. 2007

Ferris State University Wide Committees

Appointed University Institutional Review Board, Member, 2012-17
Doctorate in Community College Leadership Curriculum (DCCL) Committee, Member, 2012-Present
Ferris Connect Advisory Board, Member, 2010-2016
Graduate Education Taskforce, Member, DCCL 2010-Present
 Subcommittee Survey of FSU Graduate Students, author of report, 2011
University Graduate and Professional Council Representative, DCCL 2010- Present
Ed.D. (DCCL) Program Advisory and Development Team, 2008-2009
Membership in Internal Reviewer Group, American Association of Colleges and Universities System of

Voluntary Accountability. Roberta Teahen – Chair 2007
President’s Taskforce on Transfer and Articulation. Member. Oct. 2005

Awards and Recognition

Senate Professional Development Funds – China Practicum Trip – 2016
Faculty Center for Teaching and Learning – International Grant – 2016
Faculty Center for Teaching and Learning – Game Based Conference Funding - 2015
Michigan Association for Community College Educator Programs Service Awards: 2006-2011
Ferris State University Faculty Center for Teaching and Learning. Professional Development Funds to Awarded Funds to Attend the ACTE Conference in St. Louis, MO. 2006
Nominated Golden Apple Award – University of Michigan – Flint 2005
Golden Apple Award, Mott Community College 2005
Web Pioneer Award, UM-Flint, 2000
Distinguished Faculty Award Nomination, University of Michigan-Flint, 1997
American Society for Quality Control Fellowship, 1995
Michigan Industrial Arts Education Society, Outstanding Service Recognition 1988
Michigan Department of Education Teacher Mini-Grant Recipient, Lakeview High School 1985
Agricultural and Extension Education Department Fellowships 1988 and 1992
Agriculture and Natural Resources Education Club Advisory Appreciation Certificate. 1988

Publications / Projects:

Future projections: Emerging technologies offer opportunities and challenges to the instructional process and validation of student learning. Article in Exploring the future of community colleges: A compilation of essays by contemporary leaders: 2014 Scholar Talk Press.

Ennis, F. (2011) Survey of Ferris State University Graduate Students,

Ennis, F., C. Thomas, & K. Manley. (2007). Academic program review for training in business and industry bachelor degree. Ferris State University. Big Rapids, MI.

Ennis, F., Conley, C. & Kavanaugh A. (2007). Conference Proceedings of the Conference on Excellence in Teaching and Learning: Excellence preschool through graduate school. Oct. 26-27, 2007. Michigan Association of Teacher Educators. Bay City, MI.

Ennis, F. & et al. (2002-2005). Miscellaneous: Discipline and program reviews for the following programs: Culinary Arts, Photography, Nursing, Allied Health and Related Fields, Drafting Technology, Math, Biology, Developmental English, Cosmetology, Mott Community College. Flint, MI.

Ennis, (2005). Educator preparation course transfer sheet, Michigan Community Colleges to Michigan public universities. MACCEP. Flint, MI.

Ennis, F. (2005). Criminal justice program analysis and strategic curricular planning. Mott Community College. Flint, MI.

Ennis, F. (2004). Michigan community college mathematics courses review. Mott Community College. Flint, MI.

Ennis, F. et al. (2004). Discipline analysis and strategic planning guide. Mott Community College. Flint, MI.

Ennis, F., et al. (2004). Program analysis and strategic planning guide. Mott Community College. Flint, MI.

Ennis, F. (2004). Educator preparation transfer study. Mott Community College. Flint, MI.

Ennis, F. (2004). Manufacturing labor market report: A report on selected occupations: Genesee, Oakland, and other selected Michigan counties. Mott Community College. Flint, MI.

Ennis, F., (2003). Characteristics of selected photography programs in Michigan Community Colleges. Mott Community College. Flint, MI.

Ennis, F. (2003). Forensic technician occupation research. Mott Community College. Flint, MI.

Ennis, F. (2003). College transfer studies. Mott Community College. Flint, MI.

Ennis, F. (2002). Open entry/ open exit study. Mott Community College. Flint, MI.

Ennis, F. (2002). Food service management, culinary art and baking and pastry art program occupation survey. Mott Community College. Flint, MI.

Ennis, F. (2002). Assistive technology program needs assessment. Mott Community College. Flint, MI.

Ennis, F. (2002). Manufacturing skills: Survey results. Mott Community College. Flint, MI.

Ennis, F. (2002). Characteristics of selected photography programs in Michigan community colleges. Mott Community College. Flint, MI.

Ennis, F. & et al. (2002). Urban League: The condition of Blacks in Flint, Michigan, 25 years later. Community Foundation.

Ennis, F. (2001). Health care professions survey. Mott Community College. Flint, MI.

Ennis, F. (2001). An analysis of developmental math courses in Michigan community colleges. Mott Community College. Flint, MI.