

EASTERN IOWA COMMUNITY COLLEGES
CLINTON ♦ MUSCATINE ♦ SCOTT

2016 PETC Annual Evaluation Report

Pathways to Engineering Technology Careers (PETC)

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Prepared by



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Research Institute for Studies in Education (RISE)
School of Education
Iowa State University

Evaluation Team Members:

Arlene de la Mora, Ph.D., Research Scientist

Mari Kemis, M.S., Interim Director

Elisabeth Callen, M.S., Pre-Doctoral Research Associate

Soko Starobin, Ph.D., Associate Professor

Eastern Iowa Community Colleges
Pathways to Engineering Technology Careers (PETC) Evaluation Final
Report
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EXECUTIVE SUMMARY

TAACCCT Program Description and Activities

Eastern Iowa Community Colleges (EICC), established in 1965, includes Clinton, Muscatine, and Scott Community Colleges. It is located along the banks of the Mississippi River and is situated in an area that has some of the world's leading manufacturing companies (e.g., Alcoa, Nestle Purina, HNI Corporation). In response to regional needs to fill Engineering Technology jobs in manufacturing with highly skilled and knowledgeable employees, EICC, in conjunction with WIA/Iow@Work, local four-year universities, and local industry, proposed the development of 2+2 hybrid associate's degree programs and pathways that would improve the retention and accelerate completion rates for students in Engineering Technology programs.

In October, 2012, EICC was awarded a four-year grant from the U.S. Department of Labor Trade Adjustment Assistance Community College Career Training (TAACCCT) Grant Program whose mission is to provide community colleges and other eligible institutions of higher education with funds to develop, expand, and improve education and career training programs in order to prepare program participants for employment at high wage and high skill occupations.

The grant provided EICC with the opportunity to respond to employer demands for skilled workers by developing the programs to provide training to students in the practical application and implementation of existing technology used in the manufacturing world and address skills relevant for occupation in the field (e.g., arranging layout and workflow for machinery, personnel, materials, and equipment; ability to conduct statistical production studies; analyze production costs).

Implementation of the Pathways to Engineering Technology Careers (PETC) program has helped enhance student services (e.g., career navigation/advice), increased visibility of the program through regional marketing efforts, and increase the number of students enrolling in Engineering Technology courses.

Evaluation Design Summary

A comprehensive evaluation of the PETC project required by the U.S. Department of Labor, consisting of an implementation evaluation and an outcomes evaluation was led by the *Research Institute for Studies in Education (RISE)* at Iowa State University. The a-e-I-o-u Approach to Program Evaluation (Kemmis and Walker, 2000) was utilized for the implementation evaluation of the PETC Project. This evaluation approach provides a framework for organizing the following key evaluation questions required by the U.S. DOL TAACCCT program:

- How was the particular curriculum selected, used, or created?
- How were programs and program design improved or expanded using grant funds?

- Did the grantees conduct an in-depth assessment of participants' abilities, skills, and interests to select participants into the grant program?
- What contributions did each of the partners (sector board, employers, workforce system, other training providers and educators, philanthropic organizations, etc.) make towards program design, curriculum development, recruitment, training, placement, program management, leveraging resources, commitment to program sustainability?

This approach examines inputs (actions and activities designed to achieve specific goals), intermediate outcomes (immediate and short-term effects), and ultimate outcomes (long-term effects or changes). In assessing the operational strengths and challenges of the project during and following implementation, not only did we consider overall effectiveness, but we also considered broader impacts, contextual effects related to the organization and project environment, and unexpected results. In particular, we examined and evaluated implementation activities, key stakeholders' (i.e., College/Project Leadership, Faculty, Career Navigators, Marketing Coordinator, Employer Partners, Advisory Board members and Students) perceptions regarding the program, and tracking milestone completion by the program. Surveys were developed to assess implementation activities and key stakeholders' perceptions while tracking the status of milestones was completed by examining project records (e.g., quarterly reports, phone interviews).

To determine the impact of the PETC program, examination of participant outcomes utilized a research design approach which included comparison of two cohorts; a treatment group and a control group. For the purpose of this analysis the treatment group includes students that enrolled in the PETC program between Fall 2014 and Spring 2015, and the control group includes students that enrolled in the Engineering Technology program prior to the implementation of the PETC program between Fall 2011 and Spring 2013. Because the sample size of the treatment and control groups were small, our analysis was limited to descriptive and inferential statistics. The following research questions were examined in the analysis:

1. What are the demographic characteristics of the EICC students in the treatment group?
2. Are there statistically significant differences in selected outcomes such as program completion (certificate), employment, and wages between the treatment group and the control group?

Participant data required for the analysis were obtained from two different sources: (1) Eastern Iowa Community Colleges and (2) Iowa Workforce Development (IWD). In order to protect the confidentiality of participant data (e.g., wage data, social security numbers) a secure online data transfer portal was created and a memorandum of understanding (MOU) was developed and signed between IWD and RISE describing the process required for sharing data between agencies. The MOU indicated that treatment and control group participants for the analysis would be selected by the EICC project team based on criteria identified by RISE.

Implementation Findings

To evaluate the implementation of the PETC program, stakeholder interviews and surveys were conducted and progress in completing milestones was tracked. Stakeholders included college and project leaders, faculty, career navigators, the marketing coordinator, employer partners, advisory board members, and students. The PETC program implemented all of the milestones/deliverables of the grant with fidelity with all milestones and deliverables completed or met by the end of the grant.

Operational Strengths/Challenges of the Program:

- The Associate in Applied Science degree program was developed with a stacked credential approach allowing students to earn various credentials as they progress in the completion of an A.A.S. degree in accordance with industry needs.
- The PETC program developed and implemented a hybrid online modular instructional delivery method and expanded the program across each of the three colleges. Students have an increased flexibility with students being able to take courses at their convenience and as a result of modular classes that start every eight weeks.
- Lucid Way (instructional designer) used faculty input to develop Power Concepts (simulations) for difficult conceptions in each modular course developed for the PETC program.
- EICC utilized the same numbering system used by every community college in Iowa and completed articulation agreements with various four-year institutions providing students with ease in transferring between programs.
- The PETC program staff connected with Business/Industry Partners to conduct a job task analysis in order to remain current with industry practices/standards.
- Industry Partners have helped strengthen the PETC program by sitting on advisory boards, participating in the Defining Conference, promoting career pathways for employees/students by providing internships, field trip opportunities, and making classroom presentations to Engineering Technology students.
- Development of specialized worker training program by the PETC program for local Industry/Employer Partners.
- Marketing efforts have increased awareness of the program among potential students and Industry Partners and have led to an increase in the number of students enrolled.
- Career Navigators efforts to increase awareness of the program has led to more students enrolling and staying in the program. The enhance student services (continual contact, monitoring of student progress, advising) have helped students know that they are supported in the program.

- Other strengths include:
 - PETC program hired qualified instructors that were well liked by students and by other instructors
 - Remodeling/reconfiguration of classroom space
 - Purchase of equipment that meets industry standards
 - Overall support of the PETC program by College Leadership
- Difficulties arose when one particular instructor resisted the implementation of the online modular instruction model while the other instructors were more amenable with the changes and fully participated in updating the curriculum and power concepts. It should be noted that the instructor that was so resistant is no longer associated with the community college and the change will likely have a positive influence on the remaining instructors.
- The EICC PETC program is largely sustainable after the grant ends on September 30, 2016 and is expected to continue and grow beyond the end of the grant. However, while the Career Navigators will likely remain at the college at the end of the grant, their roles and responsibilities will likely change.

Participant Impacts & Outcomes

Summary of Participant Outcomes for the PETC Project

Participant Outcome	Goal	Actual Outcomes	% of Goal Met
1. Unique Participants Served/Enrollees	265	483	182
2. Total Number of Participants Who Have Completed a Grant-Funded Program of Study	257	85	33
3. Total Number Still Retained in Grant Funded Programs of Study	213	221	104
4. Total Number of Participants Completing Credit Hours	115	469	407
5. Total Number of Participants Earning Credentials	257	126	49
6. Total Number Pursuing Further Education After Program of Study Completion	155	--	--
7. Total Number Employed After Program of Study Completion	62	--	--
8. Total Number Retained in Employment After Program of Study Completion	76	--	--
9. Total Number of Those Employed at Enrollment Who Receive a Wage Increase Post-Enrollment	58	--	--

Note: -- indicates outcomes data not available

To determine the impact of the PETC program, examination of participant outcomes utilized a research design approach which included a comparison of two cohorts; a treatment group

(students enrolled between Fall 2014 and Spring 2015) and a control group (students enrolled between Fall 2011 and Spring 2012 and students enrolled between Fall 2012 and Spring 2013).

- There was a higher percentage (26.3%) of students in the treatment group that earned a certificate in the engineering program than students in the control group (21.1%).
- T-test results show that students in the treatment group have higher reported quarterly wages ($M=\$8,118.71$, $SD =\$7,382.68$) than students in the control group ($M=\$3,578.68$, $SD =\$3,145.86$)
- Students in the treatment group were more likely to indicate that their career goal was to get a job after completing the program than students in the control group.

Conclusions

- *Leadership.* Collaborative efforts between college leadership and instructors across the three colleges were enhanced by the guidance and facilitation provided by the project director. In particular, the project director was actively involved in the program, was in constant contact with instructors across the colleges and was instrumental in navigating through requirements of the grant.
- *Connections with Industry Partners.* Marketing of the program by the marketing coordinator, career navigators, project leaders, and faculty have been successful in increasing potential students and Industry Partner awareness of the program. These efforts have led to an increase in the number of students enrolling in the program and an increase in participation in EICC PETC sponsored activities (e.g., joining the advisory board, participating in the defining conference) by Industry Partners. Industry Partners are aware that they can work with PETC instructors should they want specialized training for their employees.
- *Completion of its Goals.* The PETC project completed all of its goals and priorities.
 - Curriculum was developed and aligned with industry standards and third party certifications.
 - The online hybrid modular instructional model was developed and implemented across each of the three colleges.
 - Completed development and implementation of Power Concepts (simulations) for each of the modules developed for the program.
 - Provided enhance student services through its hiring of two career navigators.
- *Student Outcomes.* The number of students enrolled in the program reflects a 182% of the goal projected. The potential to earn a good salary as a result of enrolling in the program was supported by the analysis; that is students in the treatment group were more likely to have higher reported quarterly wages.

The following report describes the evaluation activities conducted during the four-year grant, including interviews that were conducted with college leadership, instructors, and other key stakeholders, and tracking progression of milestone completion. This report discusses results of interviews, surveys, project accomplishments and challenges, deliverables, and an outcomes evaluation.

INTRODUCTION

Eastern Iowa Community Colleges (EICC), established in 1965, includes Clinton, Muscatine, and Scott Community Colleges. It is located along the banks of the Mississippi River and is situated in an area that has some of the world's leading manufacturing companies (e.g., Alcoa, Nestle Purina, HNI Corporation). In response to regional needs to fill Engineering Technology jobs in manufacturing with highly skilled and knowledgeable employees, EICC, in conjunction with WIA/Iow@Work, local four-year universities, and local industry, proposed the development of 2+2 hybrid associate's degree programs and pathways that would improve the retention and accelerate completion rates for students in Engineering Technology programs.

In 2012, the Iowa Workforce Development (IWD) reported discrepancies between the number of jobs available in Iowa and the worker skill sets of the workforce (Iowa Workforce Development, 2012). IWD found that while half (50%) of all jobs in Iowa were classified as middle skill jobs (i.e., jobs that require workers to have education beyond a high school degree [e.g., certificate or Associate's Degree], but less than a four-year degree) only 33% of the workforce was qualified for those middle skill jobs. In contrast, 18% of jobs available in Iowa were classified as low-skilled, while 38% of workforce was considered to be low-skilled (Iowa Workforce Development, 2012).

The job outlook for Engineering Technology is promising. In 2014, the average manufacturing worker in the United States earned \$79,553 annually (National Association of Manufacturers, 2016). The range in the rate of growth for highly skilled workers in Engineering Technology in manufacturing is expected to grow from approximately -1% to 5% between 2014 and 2024 (Bureau of Labor Statistics, 2016). The specific rate of growth, however, is dependent on the Engineering Technology specialty and has a somewhat slower growth than the 7% expected growth in overall occupations.

In October, 2012, EICC was awarded a four-year grant from the U.S. Department of Labor Trade Adjustment Assistance Community College Career Training (TAACCCT) Grant Program whose mission is to provide community colleges and other eligible institutions of higher education with funds to develop, expand, and improve education and career training programs in order to prepare program participants for employment at high wage and high skill occupations.

The grant provided EICC with the opportunity to respond to employer demands for skilled workers by developing the programs to provide training to students in the practical application and implementation of existing technology used in the manufacturing world and address skills relevant for occupation in the field (e.g., arranging layout and workflow for machinery, personnel, materials, and equipment; ability to conduct statistical production studies; analyze production costs).

Implementation of the Pathways to Engineering Technology Careers (PETC) program has helped enhance student services (e.g., career navigation/advice), increased visibility of the program through regional marketing efforts, and increase the number of students enrolling in Engineering Technology courses.

IMPLEMENTATION OF THE PATHWAYS TO ENGINEERING TECHNOLOGY CAREERS (PETC) PROGRAM

The Eastern Iowa Community Colleges' (EICC) Pathways to Engineering Technology Careers (PETC) program provides training to students in the practical implementation of existing technology used in manufacturing. In particular, the development of 2+2 hybrid associate's degree programs and pathways along with enhanced student services (e.g., career navigation) has helped to improve the recruitment and retention of students interested in working in the Engineering Technology field. Some goals of the program were to update and align the curriculum to meet industry standards across the three campuses; implementation of eight-week modules delivered in a combination of in-class and online learning; purchase and/or upgrade equipment similar to what is found in industry; and to provide flexibility (e.g., scheduling) for students to work/attend classes at any of the EICC campuses and receive the same instruction regardless of the campus.

The hybrid (i.e., combination of online and traditional face-to-face time) Engineering Technology program is a self-paced, very flexible model that facilitates learning and offers more opportunities to reach more non-traditional students by providing students with the ability to determine their own schedule and stride for completing course work, assignments, and labs (referred to as the Blong Model). The program is ideal for students coming straight out of high school as well as those already in the workforce making the approach conducive for students that would like to or need to work during the day while taking coursework at night. The model offers classes that last for eight weeks allowing the program to have multiple entry points (every eight weeks) as well as multiple exit points, with participants earning a credential at the end of each term (i.e., two eight-week sessions). The modules and labs are supported by instructors that are present to mentor and help students as needed. The program also provides enhanced student services through career navigators that work closely with students to monitor their progress in the program. To date, EICC has been successful in recruiting students to the PETC offered at its three campuses. More information regarding the Engineering Technology program can be found at: www.eicc.edu/engineering.

EICC's Associate in Applied Science degree program was designed so that the first few semesters are similar across the three colleges thereby allowing students to take courses at one of the three. Students have the choice of specializing in one of four different areas: Automation, Electro/Mechanical, Process Control or Renewable Energy during the final term of their program. Table 1 presents the credentials that can be accumulated by students while they build up their skills and move along a chosen career pathway.

Table 1.
Award Options Available in Engineering Technology

PETC Offerings	Associate in Applied Science	Diploma	Certificate
Basic Electricity			X
Basic Electronics			X
Electrical Systems			X
Process Control			X
Electromechanical		X	
Process Control Technology		X	
Automation	X		
Electromechanical	X		
Process Control	X		

Third Party Evaluator

A comprehensive evaluation of the PETC Project required by the U.S. Department of Labor (DOL), consisting of an implementation evaluation and an outcomes evaluation, was led by the *Research Institute for Studies in Education (RISE)*. Established in 1974, RISE is the research unit of the School of Education (Iowa State University, College of Human Sciences) and serves the research and evaluation needs in the field of education. RISE evaluates inputs (abilities, actions, and activities designed to achieve the outcomes), intermediate outcomes (processes and immediate or short-term effects), and ultimate outcomes (long-term effects or changes). RISE staff provide expert services and consultation in quantitative and qualitative research design and methodology, survey development, sample selection, data entry, and statistical data analysis, program and project evaluation and results. The RISE evaluation team has extensive experience conducting evaluations of cross-sectional and longitudinal projects, data collection, analyzing data using advanced statistical and qualitative analysis, and reporting, as well as experience examining organizational processes, achievement of goals, and stakeholder contributions.

The RISE evaluation team was responsible for conducting both the implementation and the outcomes evaluation of the PETC Project. The implementation evaluation describes the program environment and its processes, describes and measures various program operations, identifies those factors that may have an impact on the implementation of the program and its outcomes, and offers recommendations that the project team members and leadership can use to strengthen the program. The outcomes evaluation measures change and impact on students as a result of their participation. For example, determining the extent with which program participation predicts employment and change in wage earnings. In addition to conducting the process evaluation, the RISE evaluation team is responsible for the overall management of the evaluation project.

The following section describes the approach utilized to evaluate the PETC program.

Evaluation Plan—Program Implementation Evaluation

The PETC Project sought to partner with various Iowa organizations (i.e., four year universities, IWD, Iow@Works) to develop 2+2 hybrid A.S. and A.A.S. degree programs and pathways. The goal of these partnerships was to improve recruitment and retention of, and completion rates for targeted individuals in Engineering Technology fields. Individuals targeted by the PETC program included incumbent workers and those workers who have suffered job loss related to the Trade Adjustment Act (TAA) or other circumstances. Evaluation of the PETC program examined and reported on the effectiveness of the PETC program on meeting its goals with a focus on the program implementation process.

Evaluation Approach

The a-e-I-o-u Approach to Program Evaluation (Kemmis & Walker, 2000) was utilized for the implementation evaluation of the PETC Project. This evaluation approach provides a framework for organizing key evaluation questions and allows various methods of data collection to be used. This approach examines inputs (actions and activities designed to achieve specific goals), intermediate outcomes (immediate or short-term effects), and ultimate outcomes (long-term effects or changes). Evaluation questions are organized into five areas:

- (a)ccountability: Did the project team do what they said they would do?
- (e)ffectiveness: How well did they do it?
- (I)mpact: What changed as a result of those actions?
- (o)rganizational or environmental factors: What factors enhanced or limited goal achievement?
- (u)nticipated outcomes: What happened that was not expected?

These evaluation areas provide the basis for the developed plan and the conducted comprehensive evaluation of the PETC Project which included pieces on curriculum and delivery methods, student assessment, and participant support and career services. In assessing the operational *strengths* and *challenges* of the project during and following implementation, not only did we consider overall effectiveness, but we also considered broader impacts, contextual effects related to the organization and project environment, and unexpected results.

Overall Evaluation Activities

Evaluation methods for program implementation are both qualitative and quantitative in nature and address the following four DOL TAACCCT required questions:

- How was the particular curriculum selected, used, or created?
- How were programs and program design improved or expanded using grant funds?

- Did the grantees conduct an in-depth assessment of participants' abilities, skills, and interests to select participants into the grant program?
- What contributions did each of the partners (sector board, employers, workforce system, other training providers and educators, philanthropic organizations, etc.) make towards program design, curriculum development, recruitment, training, placement, program management, leveraging resources, commitment to program sustainability?

Table 2 provides detailed information about the methodology and data sources used to answer these questions. Table 3 contains the timeline of implementation evaluation activities for years 2-4.

Table 2.

Evaluation Questions and Key Areas of Interest Guiding Implementation Analysis

Evaluation Questions and Key Areas of Interest	Methodology	Data Sources
1. How was the particular curriculum selected, used, or created? <ul style="list-style-type: none"> • Collaborative Efforts 	<ul style="list-style-type: none"> • Document analysis • Focus groups • Surveys 	<ul style="list-style-type: none"> • Project records • Project Leadership • Faculty
2. How were programs and program design improved or expanded using grant funds? <ul style="list-style-type: none"> • Delivery Methods • Support Services and Other Services • Program Administrative Structure • Marketing/Recruitment • Students 	<ul style="list-style-type: none"> • Document analysis • Focus groups • Surveys 	<ul style="list-style-type: none"> • Project records • Project Leadership • Faculty • Advising staff • Student participants
3. Did the grantees conduct an in-depth assessment of participants' abilities, skills, and interests to select participants into the grant program? <ul style="list-style-type: none"> • Assessment tools and processes • Persons conducting assessment • Use of assessment results • Usefulness of assessment results for determining program and course sequence for participants • Career guidance • Credit for Prior Learning 	<ul style="list-style-type: none"> • Document analysis • Comparative statistical analysis of assessment data relative to program outcomes • Focus groups • Surveys 	<ul style="list-style-type: none"> • Project records • Participants' assessment scores • Project Leadership • Faculty • Advising staff • Student participants
4. What contributions did each of the partners (sector board, employers, workforce system, other training providers and educators, philanthropic organizations, etc.) make towards program design, curriculum development, recruitment, training, placement, program management, leveraging resources, commitment to program sustainability? <ul style="list-style-type: none"> • Factors contributing to involvement or lack thereof in program • Partner contributions deemed most critical to program success • Partner contributions deemed important, but less impactful 	<ul style="list-style-type: none"> • Surveys • Focus groups 	<ul style="list-style-type: none"> • Project Leadership • Partners

Table 3.

PETC Program Implementation Evaluation Timeline

EVALUATION QUESTIONS	Year 2 10/1/2013- 9/30/2014		Year 3 10/1/2014 – 09/30/2015				Year 4 10/1/2015 – 09/30/2016			
	Apr- June Q3	July- Sept Q4	Oct- Dec Q1	Jan- Mar Q2	Apr- June Q3	July- Sept Q4	Oct- Dec Q1	Jan- Mar Q2	Apr- June Q3	July- Sept Q4
1. How was the particular curriculum selected, used, or created?		R(DA)		R(DA) W(I) L(I) F(I)		R(DA)		R(DA) W(I) L(I) F(I)		R(DA) L(I) F(I)
2. How were programs/program designs improved or expanded using grant funds?	Q(DA)	Q(DA)	Q(DA)	Q(DA)	Q(DA)	Q(DA)	Q(DA)	Q(DA)	Q(DA)	Q(DA)
• Delivery methods				F(I) W(I)				F(I) W(I)		F(I)
• Program administrative structure				F(I) L(I)				F(I) L(I)		L(I)
• Support services and other services		CN(I)				CN(I)				CN(I)
• Marketing/recruitment		CN(I) M(I)				CN(I) M(I)				CN(I) M(I)
• Students			S(S)	SE(S)	S(S)	SE(S)	S(S)	SE(S)	S(S)	SE(S)
• Sustainability				F(I) L(I)				F(I) L(I)		L(I)

*Note: *Data Sources:* S=Students, SE=Student Exit, W=Lucid Way, CN=Career Navigators, M=Marketing, L=College Leadership, F=Faculty, P=Employer Partners, SB=Sector Boards, R=Project Records (e.g., websites), Q=Quarterly Reports

Method: (I)=Interview, (S)=Survey, (DA)=Data Analysis

Quarters: Q1 (October-December), Q2 (January-March) Q3 (April – June), Q4 (July – September)

Table 3.

PETC Program Implementation Evaluation Timeline (continued)

EVALUATION QUESTIONS	Year 2 10/1/2013- 9/30/2014		Year 3 10/1/2014 – 09/30/2015				Year 4 10/1/2015 – 09/30/2016			
	Apr- June Q3	July- Sept Q4	Oct- Dec Q1	Jan- Mar Q2	Apr- June Q3	July- Sept Q4	Oct- Dec Q1	Jan- Mar Q2	Apr- June Q3	July- Sept Q4
3. Did the grantees conduct an in-depth assessment of participants’ abilities, skills, and interests to select participants into the grant program?										
• Assessment tools and processes		CN(I)				CN(I)				CN(I)
• Use of assessment results		CN(I)		F(I)		CN(I)		F(I)		CN(I) F(I)
• Usefulness of assessment results for determining program/course sequence of participants.		CN(I)		F(I)		CN(I)		F(I)		CN(I)
• Career guidance		CN(I)				CN(I)				CN(I)
4. What contributions did each of the partners make towards program design, curriculum development, recruitment, training, placement, program management, leveraging resources, commitment to program sustainability?										
• Contributions by partners		P(S) SB(S)				P(S) SB(S)				P(S) SB(S)
• Level of partner involvement		P(S)				P(S)				P(S)

*Note: *Data Sources:* S=Students, SE=Student Exit, W=Lucid Way, CN=Career Navigators, M=Marketing, L=College Leadership, F=Faculty, P=Employer Partners, SB=Sector Boards, R=Project Records (e.g., websites), Q=Quarterly Reports
Method: (I)=Interview, (S)=Survey, (DA)=Data Analysis
Quarters: Q1 (October-December), Q2 (January-March) Q3 (April – June), Q4 (July – September)

IMPLEMENTATION EVALUATION METHODOLOGY

The following section describes the methodology used to examine and evaluate implementation activities, key stakeholders' (e.g., students, faculty, employer partners) perceptions of the PETC Project, and tracking of milestone completion.

Tracking Milestone Completion

The PETC Project Grant identifies seven grant priorities (e.g., developed stacked and latticed credentials, develop online learning, provide students with enhanced student services) along with one to six milestones per priority EICC was required to complete within a specified time frame. To evaluate whether EICC met these milestones, RISE staff regularly reviewed each quarterly report submitted to the U.S. Department of Labor (DOL) by EICC.

To track progress made by EICC in completing each milestone specified in the grant, RISE staff created a milestone table consisting of the seven priorities listed in the grant (i.e., Appendix A). Progress made in completing milestones was updated on a quarterly basis and data were compiled and reported annually and in aggregate using each of the 14 quarterly reporting cycles for the final report. Data utilized for the milestone tables encompasses activities from Fiscal Year 1, Quarter 1 through Fiscal Year 4, Quarter 2.

Interviews

To assess the implementation of the PETC program, interviews were conducted once a year with college leadership, faculty, career navigators, the marketing director. The Lucid Way, instructional designer hired by EICC was interviewed once in Spring, 2014.

College Leaders. College leaders were asked about their perceptions regarding the overall implementation of the program including the hiring and training of staff, marketing of the program, their success in recruiting students in general and students that were identified as displaced workers, and to share what their community college was doing to support students that enrolled in the program. They were asked about the development of the curriculum and the willingness and acceptance by faculty to fully implement modular instructional courses across all three colleges. College leaders were asked to describe how the EICC PETC program has impacted their colleges and the district overall, whether they had the support of industry in implementing the program and whether the program will be sustained after the grant ends.

Faculty. Faculty were asked to describe their role in the EICC Program and their role in the development of the curriculum, online modules, and power concepts. Faculty were asked to describe their classroom/lab setup, what they needed to do to prepare for supporting the delivery of the online modules, and whether they have participated in professional development activities. They were asked to describe their experience adjusting to the online modular instruction, and describe any lessons learned to date and/or any changes they would make. Faculty were asked

how they are going to ensure that the program remains top notch and whether they had any thoughts about the sustainability of the program.

Career Navigators. Career navigators were asked to describe their role in the EICC PETC program, how their role differs from other advisors, and whether there was an impact on their role as career navigator as a result of the implementation of the online modular courses. Career navigators were asked about their role in recruiting and retaining students in the program, the type of recruitment strategies used, and the successes and challenges in the recruitment of students. They were asked to describe their role in working with business partners, lessons learned, and whether the career navigator position would be sustained after the grant ends.

Marketing. The marketing coordinator was asked to describe her role as the marketing coordinator and length of time at EICC. She was asked to describe marketing activities and strategies used to recruit students, whether they were targeting any particular groups (e.g., displaced workers), and whether the strategies used were working. The marketing coordinator was asked to describe what the plans are for continued marketing of the program.

Lucid Way. Tim Hunter, director of Lucid Way, was interviewed about his role as the instructional designer/technologist and the development of the online modular courses/curriculum and the power concepts. He was asked about the progress made to date in the development of the curriculum, timeline and projections, and whether he had experienced any challenges in implementing the online module. Tim Hunter was also asked about what else was needed in order to move forward.

PETC Program Evaluation Surveys

A series of surveys¹ was developed to collect information and perceptions from key stakeholders about the overall implementation of the PETC program. The focus of these surveys is based on key areas/activities identified in conjunction with the EICC project team. Each survey developed and distributed to key stakeholders is described below.

Student Survey (November 2014 – March 2016)

A Student Survey was developed to assess students' experiences (e.g., goals, advising, courses) and to gauge students' perceptions at various stages in their program and was administered using the Qualtrics online survey software tool (Qualtrics, Provo UT). To ensure that the students completed the surveys, career navigators were asked to emphasize the importance of students' feedback and to ask students to complete the online survey. Paper copies of the survey were available for students who may have had difficulty accessing the online version.

¹ Whenever possible, all surveys were administered using the Qualtrics, a secure online survey software tool (Qualtrics, Provo, UT) and participants were informed that their responses were confidential and would only be reported in aggregate.

Students were asked questions about the following experiences in the PETC program:

- Enrollment/Goals: Students were asked several questions about their reasons for enrolling at their community college, their original educational and career goals, current employment status, why they chose the Engineering Technology degree program, and to identify which campus they were at most.
- Advising/Registration: Students were asked whether they knew who their career navigator was, about perceptions of their advisors (e.g., helpfulness, knowledge, availability and accessibility), how often they met with their advisor, and whether they had an individual success plan and its usefulness.
- Classes: Students were asked to indicate how helpful each of their Engineering Technology classes they've taken, their perceptions about their instructors, the number of hours they spend on campus, and the number of courses of they've taken.
- Online Classes: Students were asked about primary method of delivery for courses they've taken at EICC, which method they prefer most, reasons for their preferences, where they access the online modules, the ease in accessing the online modules and to indicate whether they experienced any problems connecting to the online modules.
- Power Concepts: Students were asked whether they had used/seen any of the power concept tutorials, whether they thought they were useful, and reasons if they indicated that the power concepts were not useful.
- Self-Paced Modular Courses: The Self-Paced Modular Courses section included questions regarding their thoughts on the self-paced modules (e.g., easily adjusted to, instructors supportive) and whether EICC helped students make the adjustment to the self-paced modular courses.
- Engagement: Students were asked about their level of engagement/involvement in courses and various activities at their community college, to rate their class attendance and to give reasons why they missed class. Students were also asked to rate how helpful various student services were, whether they had access to everything they needed to learn, and whether they were satisfied with various aspects of the program.
- Demographic Questions: Students were asked to identify their focus area and whether they can be contacted if needed.

Student Exit Survey (November 2014 – March 2016)

An exit survey was developed to assess students' plans for continuing their education, current career status, employment status, whether they thought they would receive a pay increase, and their satisfaction with various aspects of the Engineering Technology program. Unfortunately, none of the participating students responded to this survey.

Employer Partner Survey (January 2016)

The Employer Partner survey was developed to assess Industry/Employer Partners regarding the number of Engineering Technology hires, current employees in the Engineering Technology program, employer involvement/opportunities, and the importance of soft skills. Partners were asked questions about the strengths of the Engineering Technology program and the ease of working with EICC to identify Engineering Technology students for potential employment. The survey was distributed to partners identified by the EICC project team.

Advisory Board Survey (August 2015)

The Advisory Board Survey was distributed to individuals that participated in the Defining Conference held on November 7, 2013. Advisory board members were asked about possible changes to the Engineering Technology Defining Conference Chart, challenges Engineering Technology graduates face in finding jobs that pay at least \$25/hour, and about their general thoughts about hiring EICC Engineering Technology graduates.

Challenges Related to the Surveys

The development of surveys generated several challenges, including the identification of appropriate key stakeholders to survey and achieving an adequate response rate.

Identification of Key Stakeholders to Survey. One challenge in developing the surveys is ensuring that the appropriate people are asked the appropriate questions. In working with the EICC project team, the RISE evaluation team was able to identify the most knowledgeable people who could provide meaningful responses to questions regarding what was happening at EICC, as well as share their perceptions about any experiences they may have had interacting with EICC. Questions also had to be meaningful in order for the responses to help project staff document and understand what was occurring as a result of the program and help them make needed changes so that the program would be most effective.

Response Rates. A major challenge was getting people to respond to the surveys (see Table 4). The issue of survey response rates did not improve throughout the grant even when respondents only had one survey to take versus times where the respondents had multiple surveys to take. The information gathered by the surveys is informative to the overall PETC Project. This was a project that relied on site-based data collection for some of the surveys. We worked closely with the Project Director to understand the way they collected data at EICC and how the Project Director could help us by encouraging survey participation, particularly for student responses.

Table 4.
Number of Responses to PETC Evaluation Surveys Distributed Through March 31, 2016 (Fiscal Year 4, Quarter 2).

Survey	Respondents	n	Data Collection Time Period
Student	All Engineering Technology students	47	11/1/2014-3/31/2016
Student Exit	Graduating students	0	11/4/2014-3/31/2016
Employer Partners	Industry/Employer partners	3	1/26/2016-3/31/2016
Advisory Board/Defining Conference	Defining Conference participants	2	8/4/2015-9/30/2016

IMPLEMENTATION EVALUATION RESULTS

The follow section presents summarized results of selected evaluation activities that include completion of milestones, student surveys, the employer partner survey, and the advisory board survey. Detailed reports and results may be found in Appendices A-F.

Completion of Priorities/Milestones

All priorities and milestones were completed by September 30, 2016 (end of Fiscal Year 4; see Appendix A for detailed report).

Milestones for Priority 1: Establish groundwork for the project were completed in Fiscal Year 3. Milestones completed include hiring Lucid Way to provide instructional designer/technologist services and work with faculty in developing Power Concept videos, hiring two career navigators to provide enhanced student services, purchasing needed equipment, and meeting with the external evaluators.

Milestones for Priority 2: Develop stacked and latticed credentials were completed in Fiscal Year 2. Milestones completed include using the DACUM process to develop the PETC curriculum, mirroring of credit and non-credit courses, developed and implemented a A.A.S. program that would allow students to articulate to a four-year degree, and review of EICC Prior Learning Assessment (PLA) policies.

Milestones for Priority 3: Develop online learning were completed in Fiscal Year 2. Milestones completed include the development and implementation of 2+2 hybrid Engineering Technology course modules supplemented with power concept videos.

Milestones for Priority 4: Articulation of credits/credentials were completed in Fiscal Year 2. Milestones completed include entering into an articulation agreement with Western Illinois University, University of Iowa, and University of Northern Iowa and updating the PETC program using the same numbering system used by every community college program in Iowa to facilitate transfers between colleges.

Milestones for Priority 5: Strategic alignment with business/industry and TAA state agency were completed in Fiscal Year 3. Milestones completed include engaging industry partners on an ongoing basis to ensure that job task analyses are up to date; conducting a defining conference with industry/business partners; having industry partners sit on EICC PETC advisory boards and curriculum committees; development of partnerships with industry leaders that provide opportunities for their students (e.g., internships, classroom presentations, field trips). EICC also met regularly with Iowa Workforce Development to discuss how to improve outreach and has sought out feedback from industry partners regarding EICC's marketing strategies.

Milestones for Priority 6: Enroll students, provide them with enhanced student services, were completed in Fiscal Year 3. Milestones completed include development of a recruiting tool using input by participants at the Defining Conference held in 2013, ongoing discussion regarding best practices to target and recruit specific groups of students, hiring career navigators to work with students on the development of individual success plans, and working with community based organizations identified by EICC and IWD that can provide services to students.

Milestones for Priority 7: Evaluation of DOL program was completed in the final year. Milestones completed include the evaluation of college courses to ensure that they are current and aligned with industry standards, analysis of outcome data (e.g., wage data) received from IWD was conducted by RISE, the third party evaluator, a review of each course component was reviewed by the quality improvement team, development of tutorials for math and study skills, and development of a sustainability plan.

Interviews

Interviews with college/project leadership, faculty, career navigators, and marketing personnel were conducted once a year between 2014-2016. One interview with the director of Lucid Way was conducted in Spring, 2014. The following is a summary of interview findings. Please see Appendices B-E for complete results.

College Leadership

Based on interviews with EICC PETC college and program leaders, the program has been successful in attracting and recruiting students. One college leader, in particular, noted that they have very likely increased the number of students in their program by approximately 300%. The majority of students recruited are individuals that are more likely to be employed, less likely to have any disabilities, do not have a history of being chronically unemployed and not likely to be TAA workers. It should be noted that at the time of the interviews there were only about 29 TAA

workers within the entire district and almost all of them were either in the process of finding or had already found employment.

College leaders all agree that efforts to market the program have gone very well. To that end, a three-year marketing strategic plan was developed by Wayne Merrell (Program Director) and marketing directors Karen Farley and Allen Campbell. The plan helped to identify the best ways to market the program over the course of the grant period. The career navigator is also very involved in marketing efforts on behalf of the EICC PETC program. The success is evident in the number of new students that enroll every term. It was noted by one college leader that he would like to see a better connection between the district marketing team and what career navigators do, hear and see while out in the community.

Rating faculty willingness was difficult because while instructors at two (Blong, Clinton) of the colleges have fully implemented the modular instructional method, instructors at Muscatine have resisted its implementation. The instructors at Blong and Clinton have worked hard to implement and have done a great job. At Muscatine, there is one instructor in particular that has been verbal about his resistance causing other instructors at that college to resist implementation as well.

College leaders overall felt that curriculum development has gone very well and that they are on the right track. The focus has shifted from development to improvement now that it has been in use for several terms. The program has convened committees to identify, prioritize and resolves issues as needed. College leaders indicated that there are some aspects of the curriculum that do not work for students and some pieces that need to be added in order to better prepare students for work in the Engineering Technology field. Curriculum for the program has become institutionalized which facilitates making changes in order to continue to be relevant in the industry while continuing to benefit students as well.

Overall, industry partners fully support the new Engineering Technology program at EICC. Industry partners are very willing to help the program as needed (e.g., tours, guest speakers). Partners have also been great with placement; to date they've had 100% placement of their students. A student that recently completed the program found a job with a starting pay of \$100,000. The majority of partners are supportive of the updated curriculum and are very unlikely to want the program to revert to the old curriculum. EICC is working hard to engage their industry partners to help them understand/accept the revised curriculum and textbooks used.

College and project leaders report that the project has been successful overall. They developed a curriculum that is accepted and can be used worldwide and it identifies the most difficult concepts and have come up with ways to teach them so that are understandable. The PETC program received a Leaders of Innovation award at the Manufacturing Leadership Award Ceremony, making it the only educational institution that has ever been invited or gotten an award from this group with members such as DOW Chemical, Boeing, and Toyota.

All of the open coursework and educational resources for instructors and students developed for the program are available on <http://engineertech.org>. According to the project director, they have received feedback that other community colleges and high schools in the state are using these resources.

Committee members, convened to explore ways to ensure that the current program is institutionalized, are confident that the self-paced modular delivery method (i.e., Blong Model) will continue to be used. College leaders also concur that the program will be sustained and have begun groundwork to make that happen. In particular, they will continue to sustain the modular format, provide apprenticeships, and will continue to use the power concepts developed with grant funding. College leaders are optimistic that the implementation of the program is a stepping stone that they will continue to build upon.

Faculty

Faculty from each of the three campuses were involved in the overall discussion and development of the curriculum, writing specific sections they had expertise in and ensuring that the curriculum was aligned to meet industry standards. Their classrooms were set up in accordance with the online modular system offered at the Blong Technology Center. They worked to establish a common EICC Course Development Model (CDM) for every credit course describing learning goals and outcomes, prerequisites, method of instruction, topic outlines, assessment and competencies. They also collaborated on the power concepts developed by Lucid Way to supplement student learning in specific aspects of program content.

All courses are self-paced and are delivered in a flexible format that allows students to attend at their convenience. Students can go online to complete the theoretical portion of the class and come to campus to complete the labs for the hands-on application of the class. Students that need more structure and some recent high school graduates have been challenged by the self-paced, online environment. There is somewhat of a learning curve to make the adjustment. Faculty are in the process of making adjustments to the schedule to ensure that students aren't trying to complete all of the modules during the final week of the term. In particular, faculty would like to impose changes that prevent students from moving onto the next module without completing the module they are currently working on. This may include establishing deadlines and monitoring students' progress more closely.

In general, however, students have liked the flexibility and enjoy that they only need to spend approximately eight hours per week working on their labs. It is this flexibility that faculty believe have led to the program's success. This was evident when a group of students went from one campus not offering the modular system to one that was.

Faculty identified a few things that they would like to change based on what they've learned to date. First, faculty would like to have all Engineering Technology students attend an orientation that describes the program and the self-paced and flexible nature of the modules rather than having students come into the lab on a one-to-one basis. The information they receive would be consistent and would allow them to start working on the modules right away. Second, some faculty indicated that they would like to add some of the basic hand tools instruction that was removed in the updated curriculum and third, faculty would like to offer the advanced courses every other term so that faculty can focus more on the courses and reduce the overall management of them.

Faculty members also reported the difficulty they have experienced as a result of having fellow faculty that have not been supportive of the new program and have resisted the changes. A suggestion made by faculty was that it may have been better to create the program from scratch allowing for more buy-in from the faculty. It should be noted that the faculty member that refused to buy in and resisted the online method of delivery is no longer in the EICC PETC program.

One faculty member suggested that the program needs more instructors in order to sustain the program given that all instructors teach all of the courses simultaneously. In order to remain a top notch program, the modules must be constantly monitored and updated to reflect industry practices in real time. In order to remain a top notch program, faculty will need to maintain their industry connections, be given more time to complete quality checks, and take part in professional development activities.

Career Navigators

The role of the career navigators ranges from recruiting and retaining students, intensive ongoing support for enrolled students, making connections with industry partners, to marketing of the EICC PETC program. They travel throughout the region on behalf of the program by participating in employment fairs, collaborating with recruiters and serving on committees and participating in other events as needed. Career Navigators have intense caseloads ranging from 40-90 students. In addition to their duties of marketing and traveling, career navigators are constantly in contact (email, face-to-face) with students, help them apply for certificates, provide guidance and advice about career pathways, and monitor students' progress in the program.

Career Navigators have been successful in their efforts to increase awareness of the program to potential students and industry partners. The increase in the number of students enrolling in the program can also be partly attributed to the work of the Career Navigators. Career Navigators indicated that they often don't have the time needed to engage in other activities (e.g., marketing, visiting industry partners) given their intense work with students.

The position of the Career Navigator in its current configuration is dependent heavily of funding, therefore, it is unlikely to continue as it is currently. Staff currently in these positions will likely remain, however, their duties and responsibilities will change.

Marketing Coordinator

The marketing coordinator's responsibilities include working on the development of curricula, development of printed pieces and ads for the purpose of recruiting students, and working with local manufacturing firms to discuss what these firms need from their employees.

Several marketing strategies are utilized in recruitment efforts. One strategy is to provide opportunities for prospective students to experience EICC first hand. This is accomplished in several ways, for example, EICC often hosts "information nights" on campus allowing prospective students to meet and talk with career navigators and faculty and to tour facilities and the labs. EICC has also hosted manufacturing career fairs open to all including current and former students and anyone interested in learning more about manufacturing careers. Several open houses have been held at the Blong Technology Center, the Maquoketa facility, and at the manufacturing center.

In an effort to reach the largest possible audience in promoting both the PETC and Iowa Advanced Manufacturing (I-AM) programs, EICC has also advertised through radio and television commercials and social media (e.g., Twitter, Facebook, Google Ads, Pandora, and Newspapers). EICC has also developed several advertising handouts that are sent to prospective students. These handouts include one-pagers (listing facts), curriculum sheets, and charts and graphs that describe Engineering Technology.

Marketing efforts have targeted under-employed, unemployed, and individuals that have been laid-off. There has been an increase in the number of people interested in both the PETC and Advanced Manufacturing programs suggesting that marketing efforts have been successful. EICC's marketing coordinators used various methods to determine whether marketing strategies used are successful. These include looking at click-throughs, social media activities (i.e., re-tweets, likes, shares), Google Analytics, and the inquiry form posted on EICC's website. Using these methods, they have found a noticeable increase in enrollment numbers, inquiries, and prospective students visiting the campus after the marketing of the PETC program was implemented. Others at EICC, including the College Leadership, define successful marketing efforts through a variety of avenues. College Leadership and others look at the number of students enrolling and completing programs, employment following graduation, and how people outside of EICC view/brand the community college. The College Leadership is also interested in company involvement or how the local companies perceive EICC.

Lucid Way (Instructional Design)

Lucid Way was hired in 2013 by the EICC PETC program to assist with the design and development of the online modular curriculum courses and online power concepts. In particular, Lucid Way was tasked with identifying a prototype for the power concept consisting of "3-D development, storyboards, LMS development, narration" and working with faculty identified as having expertise in the topic that is being developed. Specific power concepts, identified by faculty as areas that "students have had problems with," were created to provide additional help and support to students.

One of the roles of the instructional designer was to help instructors, that were initially reluctant, through the process of implementing the online modules. Resistance was short lived once faculty saw the simulations and they began to “make more sense” to them. Another challenge in the development and implementation of the simulations involved the slow Wi-Fi infrastructure at EICC resulting media buffering. However, IT personnel are quick in responding to issues related to internet usage as needed and it doesn’t appear to be an issue anymore.

Engineering Technology 3D simulations (power concepts) developed by Lucid Way were shared on Skills Common and can be found on the Engineering Technology website at <http://engineertech.org/>. Instructional methodology/classroom guides are provided for the simulations to facilitate use by instructors at other community colleges/facilities.

Results of the PETC Program Evaluation Surveys

Student Survey

The following is a summary of findings from the student survey, see Appendix F for a complete detailed report and results.

Educational/Career Goals and Current Status. Almost half (47.7%) of the respondents indicated they were unemployed, 7.3% were employed full-time and the remaining 25.0% worked on a part-time basis. The majority (65.9%) of respondents indicated they enrolled at EICC because it was close to home, 43.2% indicated it was a cost savings measure, 36.4% liked the relationship EICC has with business/industry, and 22.7% enrolled because they had taken classes at EICC in the past. Half of the respondents indicated that it had been five or more years since they were last in school, 20.5% indicated they were last in school less than one year ago and the remainder indicated that it has been two to four years since they were last enrolled in school.

Students chose the Engineering Technology as a degree program because they wanted to work in the Engineering Technology field, they were interested in Engineering Technology, and because they wanted to strengthen their skills in Engineering Technology. Most of the respondents indicated their current educational goal was to complete AA/AS degree and that their current career goal was to get a job in the Engineering Technology field. A quarter of the students reported that their goal was to get a promotion and/or increase their salary/wages at their current job. The majority of the students were mostly at Muscatine Community College with the remaining students were mostly at the Blong Technology Center, Clinton or Scott Community College campuses.

Advising/Registration. The majority of students (76.2%) indicated that they knew who their adviser was and the remaining 23.8% did not. Almost all of the students indicated their navigator was friendly, helpful, knowledgeable about program requirements, available, accessible, and the career navigator provided needed assistance. In general, approximately half students met with the career navigator at least one time per semester and the remaining met with the career navigator monthly or weekly and meetings usually lasted about 16-30 minutes. About half of the students reported that they had an individual success plan and the majority of those

students found the individual success plan to be fairly or very useful because it helped set goals and stay on task. The plans were not as useful for students that were taking classes through work since they already knew which classes they needed to take.

Classes. Overall, the respondents indicated the courses needed for the Engineering Technology program are fairly helpful or very helpful. Overall, students thought their instructors were friendly, helpful and provided guidance as needed, knowledgeable about subject matter, and that their instructors are available or accessible. The number of hours students spent on campus ranged from one to 12 hours per week, with the majority spending more than four hours per week on campus.

Online Classes. The majority of students reported that the majority of their classes were blended, a quarter indicated lecture/lab and the remaining indicated primarily online courses. Slightly more than half of the students reported that they preferred the lecture/lab delivery method and slightly more than one-third indicated that they preferred a blended approach. Respondents indicated that their preferences were related to flexibility in schedule, retention of more content when the delivery method was classroom, liked more hands-on opportunities, having the ability to access instructors, and liking the interaction between students and teachers. In contrast, some students reported that they did not like learning on their own. In general, students accessed their online modules at home or on-campus and a few students used the public library while some students indicated that they go to “other” places. Half of the students thought it was easy to access their online modules and in general, did not experience very many issues connecting to the online modules. Almost two-thirds (60.5%) of the respondents indicated they had seen the power concept tutorials with over half (56.5%) of those students finding them useful.

Self-Paced Modular Courses. The majority of students indicated the self-paced learning met their lifestyle needs and that they had easily adjusted to the self-paced learning. Instructors connect/interact with students enough and their instructors are supportive of the new teaching strategy.

Satisfaction with Student Services and Educational Experiences. Overall, resources available to assist students were considered helpful by the respondents. Most students thought tutoring, financial aid services/counseling, academic advising, supplemental instruction and workshops were helpful and most thought that they had everything they needed to learn. Students indicated they were satisfied with the classroom environments, the encouragement to be successful, the quality of the Engineering Technology program, and the quality of the academic advising.

Almost all of the students reported that their educational experiences in the Engineering Technology program had contributed to their intellectual growth and had helped them prepare for further study and for their career.

The majority (66.7%) of students responding to the survey focused on electromechanical, 15.2% focused on automation, 12.1% focused on process control, and 6.1% focused on renewable energy.

Employer Partner Survey

A survey was developed to assess Employer Partners' thoughts about the EICC PETC program, its students and related practices. The survey was distributed to nine EICC Employer Partners identified by the EICC project team. Only two partners completed the survey for a response rate of 22.22%. One partner indicated that they had not hired any PETC students in the past year and the other partner indicated that they had hired at least one. One partner indicated that they had one employee currently enrolled in the program. Both partners indicated that they have had some involvement with the local advisory board and helping EICC identify occupational needs. One partner offers various opportunities such as internships, tours of the facility, tuition reimbursement, company sponsored training and helping out with career fairs. Both partners agree that soft skills (e.g., communication, problem solving skills, attitude) are important traits for employees to have and are neutral with regards to EICC students' soft skills. One partner indicated that they would like to be better connected to EICC and would like EICC to work harder in the recruitment of highly capable students into the Engineering Technology program.

Advisory Board Survey

A survey was developed to assess advisory board members regarding their thoughts about their participation in the Defining Conference held on November 7, 2013, and was sent to 11 participants. Two individuals responded to the request to complete the survey (response rate = 18.18%). The two responding participants both agree that they were given an adequate opportunity to present their ideas on how they define Engineering Technology. Participants indicated that potential candidates in the field need to demonstrate a strong work ethic and establish evidence that they are committed to their career. There is also competition in the field given that there many individuals with advanced engineering degrees who are not willing to relocate but are willing to take on a more basic role. Participants indicated that a realistic starting salary in their company ranged between \$45,000-\$55,00 per year. They would both hire graduates of the PETC program and indicated that the curriculum is a good indicator of a students' potential ability and provides a nice technical foundation to build upon.

DOL TAACCCT Required Research Questions

The four DOL TAACCCT required questions for the program implementation evaluation were answered through a variety of means including interviews and surveys. The following section is a summary of responses to the four DOL TAACCCT required questions.

How was the particular curriculum selected, used, or created?

EICC PETC faculty from each of the three colleges collaborated on developing and updating the curriculum of the 2+2 hybrid associate's degree program based on the self-paced modular programs offered at the Blong Technology Center. They utilized a DACUM process for the development of their curriculum and carefully considered input/feedback provided by industry partners in the development to ensure that it aligned with industry standards and needs. Instructors incorporated contextualized remediation into each course by adding extra scenarios and quizzes. Each instructor was assigned a specific area of focus based on his specialization. Faculty also worked closely with Lucid Way to identify key concepts that students typically have problems with to develop Power Concepts/simulations to be incorporated in each course. While the goal was to have the same curriculum across the colleges, instructors had to adapt how the topic was covered given that the equipment varied somewhat between colleges. Each faculty member had some freedom in choosing the textbook they would use in courses they facilitated, however it had to cover all of the areas listed in the curriculum.

How were programs and program design improved or expanded using grant funds?

The self-paced modular courses are considered hallmarks of the Blong Technology Center and are thought to enhance the center's capacity to enroll students that would not traditionally enroll in the program. The flexibility of the self-paced, short eight week courses provide opportunities for students to structure the courses at their convenience, continue to work if needed, and take evening courses. Labs are open for extended periods of time and are supported by a faculty member to help students progress and answer questions if they need additional assistance. The goal of scaling the Blong Model across the other colleges was to increase the number of students enrolling in the program, increase visibility of the program, and to strengthen the connections with industry partners.

Grant funds allowed the program to hire Lucid Way to work with instructors on the development of the Power Concepts. In particular, faculty were filmed explaining the difficult concepts in greater detail which in turn were used as the foundation for the simulations created by Lucid Way.

Grant funds were also used to purchase equipment consistent with equipment used in industry as well as provide students experiences that meet industry standards. In addition, funding was used to enhance student services by hiring career navigators, and funding was used to market and increase the visibility of the program to potential students and industry partners.

Did the grantees conduct an in-depth assessment of participants' abilities, skills, and interests to select participants into the grant program?

Career navigators were hired by the program to provide enhanced and intensive student services. They worked with students to develop individual success plans that helped students set goals and helped students stay on task, as well as identifying the classes they needed to take in order to complete the program. Career navigators helped to monitor students' progress and intervened as needed. They made sure all of the necessary paperwork was completed and provided advice to students wanting to articulate to another college. Career navigators also developed connections with industry partners and helped students to make those connections as well.

What contributions did each of the partners make towards program design, curriculum development, recruitment, training, placement, program management, leveraging resources, commitment to program sustainability?

Strengthening of the connections provided advantages not only to EICC, its students and their placement, but provided advantages for the partner as well. Partners help EICC by sitting on sector boards and/or advisory committees, providing feedback on the curriculum and industry standards, by either donating equipment or by providing advice on the purchase of equipment, and providing tours of their plants for students. These partnerships increase the EICC PETC program's credibility across the state. In turn, students completing the PETC program help by filling gaps in the industry. Industry Partners are desperate for skilled trade people and PETC students match their needs. In addition, Industry Partners often send their employees for training specifically developed for them or have their employees take part in apprenticeship programs.

PETC PROGRAM PARTICIPANTS

A total of 483 unique participants enrolled in the Engineering Technology program between 2012 and 2016 reflecting 182% of the projected number of participants (see Table 5; see Figure 1). Of these participants, 85 completed a grant-funded program of study (reflecting 33% of the projected goal); 221 were still retained in grant funded programs of study as of June 30, 2016; 469 completed credit hours (reflected 407% of the projected goal; 126 participants earned at least one credential (see Table 5).

Table 5.
Outcomes Measures for the PETC Project as of June 30, 2016

Participant Outcome	Goal	Actual Outcomes	% of Goal Met
1. Unique Participants Served/Enrollees	265	483	182
2. Total Number of Participants Who Have Completed a Grant-Funded Program of Study	257	85	33
3. Total Number Still Retained in Grant Funded Programs of Study	213	221	104
4. Total Number of Participants Completing Credit Hours	115	469	407
5. Total Number of Participants Earning Credentials	257	126	49
6. Total Number Pursuing Further Education After Program of Study Completion	155	--	--
7. Total Number Employed After Program of Study Completion	62	--	--
8. Total Number Retained in Employment After Program of Study Completion	76	--	--
9. Total Number of Those Employed at Enrollment Who Receive a Wage Increase Post-Enrollment	58	--	--

Note: -- indicates outcomes data not available

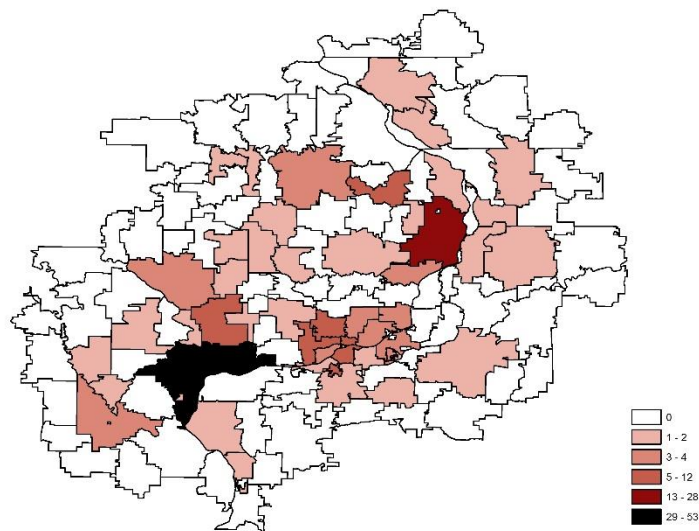


Figure 1. Map of Fall 2014 to Spring 2016 Engineering Technology Participants by Zip Code within the EICC District.

OUTCOMES EVALUATION METHODOLOGY

The following section describes the methodology (e.g., research questions, data sources, types of analysis conducted) utilized to conduct the analysis of PETC student/participant outcomes.

Comparison of Treatment and Control Groups

To determine the impact of the PETC program, examination of participant outcomes utilized a research design approach which included comparison of two cohorts; a treatment group and a control group. For the purpose of this analysis the treatment group includes students that enrolled in the PETC program between Fall 2014 and Spring 2015, and the control group includes students that enrolled in the Engineering Technology program prior to the implementation of the PETC program between Fall 2011 and Spring 2013.

Research Questions. Because the sample size of the treatment and control groups were small, our analysis was limited to descriptive and inferential statistics. The following research questions were examined in the analysis:

1. What are the demographic characteristics of the EICC students in the treatment group?
2. Are there statistically significant differences in selected outcomes such as program completion (certificate), employment, and wages between the treatment group and the control group?

Data Sources and Data Sharing. Participant data required for the analysis were obtained from two different sources: (1) Eastern Iowa Community Colleges and (2) Iowa Workforce Development (IWD). In order to protect the confidentiality of participant data (e.g., wage data, social security numbers), a secure online data transfer portal was created and a memorandum of understanding (MOU) was developed and signed between IWD and RISE describing the process required for sharing data between agencies. The MOU indicated that treatment and control group participants for the analysis would be selected by the EICC project team based on criteria identified by RISE (see Table 6). The dataset was forwarded to IWD so that they could add quarterly wage data and de-identify the final dataset that was then shared with RISE.

Description of Participant Data. Participant data were obtained for three cohorts, one treatment group consisting of students directly impacted by the PETC program and two control groups that participated in similar programs prior to the start of the PETC program (see Table 6). Two control groups were included to ensure that the sample size was sufficient for conducting the appropriate analysis needed to determine the impact of the PETC program on students. It should be noted that the time period requested for the treatment group (see Table 6) was chosen due to time constraints in obtaining data.

Table 6.

Participant Data Requested from State Agencies (IWD)

Students Enrolled in:	Cohort	Semesters Enrolled	Time Period Requested for Wage Data
TAACCCT Funded Engineering Technology	Treatment Group	Fall 2014 – Spring 2015	Q3, FY 2012 (July 1, 2012) – Q4, FY 2015 (Dec. 31, 2015)
Non-TAACCCT Funded Engineering Technology	Control Group 1	Fall 2011 – Spring 2012	Q3, FY 2009 (July 1, 2009) – Q4, FY 2012 (Dec. 31, 2012)
Non-TAACCCT Funded Engineering Technology	Control Group 2	Fall 2012 – Spring 2013	Q3, FY 2010 (July 1, 2010) – Q4, FY 2013 (Dec. 31, 2013)

Note: Q=Quarter; FY=Fiscal Year
 Quarterly wage data and industry codes provided by IWD
 Demographic data and education records provided by EICC

Longitudinal Analysis. Participant data was analyzed at two time points specified for each of the three cohorts:

- Time 1: One full quarter just prior to participant enrollment during the period specified for each cohort (see Table 6).
- Time 2: Second full quarter following two semesters of enrollment within the period specified for each cohort (see Table 6).

Median versus Mean Wage Data Analysis. Whether to use median wages or mean wages in the analysis presented an issue given that both of these measures of central tendency can be affected by the shape of the distribution. Results of tests for the difference in median wages were very similar (e.g., skewness, p-value) to results of tests for the difference (e.g., t-tests) in mean wage. Therefore, mean wage data were used in the analysis presented in this report. It should be noted that all participants with reported wages (including participants that earned “\$0” wages) at Time 1 or Time 2, were included in the tests for the difference in means and tests for the difference in medians analysis. Quarterly wage data is reported for this analysis.

Descriptive and Inferential Analysis. Descriptive and inferential statistics were conducted on the treatment and control groups. Descriptive statistics includes demographic data (e.g., age, race, sex, etc.) on both the treatment and control groups. Inferential statistics (i.e., t-tests) were conducted on participants’ wage data at Time 1 and Time 2 to determine whether there were any significant differences in wages between the treatment and control groups. In particular, both median and mean wage differences were examined to determine differences between the groups.

OUTCOMES EVALUATION RESULTS

Treatment and Control Group Participants

The Treatment Group. A total of 28 participants enrolled in the PETC program between Fall 2014 and Spring 2015 were identified for inclusion in the treatment group. Participants that received no wages for the entire time period requested and participants who were not Iowa residents (wage data not available for individuals employed outside of Iowa) were removed for the analysis. The final treatment group sample size was 19.

The Control Group. The control group consisted of two cohorts of students enrolled in Engineering Technology programs prior to the start of the PETC program. Cohort 1 consisted of 25 participants enrolled in Engineering Technology programs between Fall 2011 and Spring 2012 and Cohort 2 consisted of 17 participants enrolled in Engineering Technology programs between Fall 2012 and Spring 2013 for a total of 42 participants.

Participants who received no wages for the entire time period requested; participants who were not Iowa residents; and participants who received an Associates' degree within the cohort time frame (none of the participants in the treatment group received an Associates' degree) were removed for the analysis. The final control group sample size was 19 (10 from the first cohort, 9 from the second cohort).

Outcomes Analysis

Descriptive statistics analysis was conducted to examine the demographic characteristics of participants in both the treatment and control groups (see Table 7). Approximately 26.3% of students in the treatment group earned a certificate in the program compared to 21.1% in the control group. Students in the treatment group ranged in age from 18 to 42 years of age compared to 18 to 57 years of age for students in the control group. The majority (94.7%) of participants were male in both the treatment and control groups and the majority were White (94.7% treatment group; 89.4% control group). Approximately 78.9% of students in the treatment group held at least one job at Time 2 compared to 73.7% of students in the control group.

Table 7.
Demographic Characteristics of Participants by Group

	Treatment (n=19)	Control (n=19)
Earned a Certificate in the Program (%)	26.3	21.1
Age (Range)	18-42	18-57
Male (%)	94.7	94.7
White (%)	94.7	89.4
Held at least One Job at Time 1 (%)	73.7	68.4
Held at least One Job at Time 2 (%)	78.9	73.7

Results of the t-test analysis showed that participants in the treatment group were more likely than participants in the control group to have higher mean wages at Time 2 (see Table 8). Based on the data provided by IWD, participants in the treatment group earned approximately \$4,500 more in reported quarterly wages than participants in the control group (see Figure 2). While participants in the treatment group had higher reported quarterly wages than participants in the control group, the difference was not statically significant.

Table 8.
Samples Statistics for Participant Wages.

	Treatment		Control		Mean Differences		<i>t</i>
	Mean	Std.	Mean	Std.	Mean	Std.	
Wages (Time 2)	8118.71	7382.68	3578.68	3145.86	4540.03	1841.06	2.466*
Wages (Time 1)	5557.76	5973.56	2554.82	4027.54	3002.95	1652.82	1.817
Difference in Wages (Time 1 to Time 2)	2560.95	7003.16	1023.86	5299.60	1537.08	2014.81	0.763

Note: * p-value<0.05

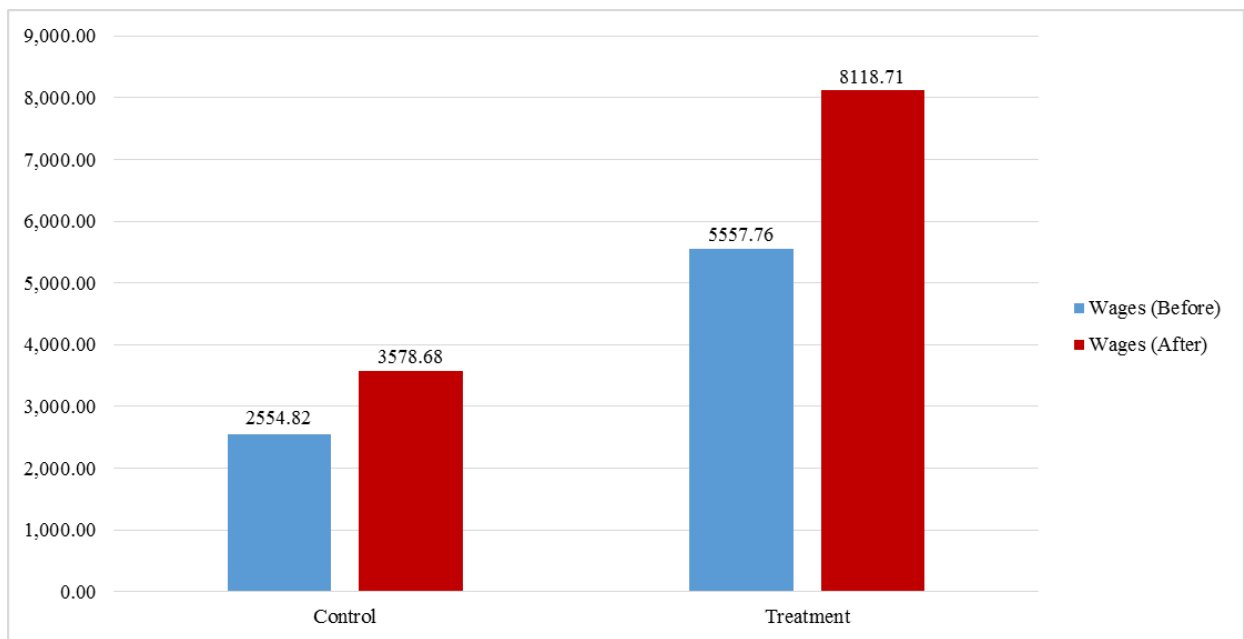


Figure 2. Average Wages for Treatment and Control Participants at Time 1 (Before) and Time 2 (After).

An analysis was also conducted to examine differences in the “intent to get a job after completion” between participants in the treatment and control groups. Results of the t-test analysis indicated that participants in the treatment group were more likely than participants in the control group to get a job after completion (see Table 9).

While not significant, participants in the control group were more likely to hold one or more jobs at Time 1 than participants in the treatment group. However, participants in the treatment group were more likely to hold one or more jobs than participants in the control group at Time 2.

Table 9.
Intention to Get Job and Number of Jobs Held by Treatment and Control Group Participants

	Treatment		Control		Differences		t
	Mean	Std.	Mean	Std.	Mean	Std.	
Intent to Get a Job After Completion	0.789	0.419	0.474	0.513	0.316	0.152	2.078*
Number of Jobs (Time 1)	0.840	0.602	1.050	0.911	-0.211	0.251	0.840
Number of Jobs (Time 2)	0.950	0.621	0.790	0.535	0.158	0.188	0.839

Note: * p-value<0.05

Limitations.

The sample size limits the types of analysis that can be conducted, results, and interpretation of results. For example, student data (e.g., demographic, employment) for analysis were limited to those variables available through the EICC student database and IWD. Not being able to follow students for a longer period of time beyond completion of a certificate or other award may have also impacted results. Data indicating whether students in either the treatment or control group earned awards or furthered their education any time after Time 2 were not available. Therefore, it is possible that students may have decided to continue their education and put off seeking either full or part-time employment, which in turn would have affected reported quarterly wages. In addition, students may have needed more time to secure a job or they may have traveled outside of the state to work.

CONCLUSION

Collaborative efforts between college leadership and instructors across the three colleges were enhanced by the guidance and facilitation provided by the project director. In particular, the project director was actively involved in the program, was in constant contact with instructors across the colleges and was instrumental in navigating through requirements of the grant. While the majority of instructors were on board with the updated program and were fully implementing it at their respective colleges, there was some disruption as a result of one instructor's resistance to making the change. The instructor that was not on board with the updated program is no longer associated with the community college and there is optimism that they can move forward and that they will continue to enroll students into the program and that the program itself will continue to grow.

While there were several challenges associated with the PETC program, there were many more strengths of the program. Funding allowed EICC to remodel/reconfigure classroom space as needed to accommodate more students. They created stacked and latticed credentials for the entire program, they were able to expand their Blong Model to all three community colleges, and they were able to purchase necessary equipment. They have hired qualified instructors that are well liked by students. EICC also worked with Lucid Way (an Instructional Design company) to create Power Concepts to help students learn difficult subjects. The PETC program also provided enhanced student services by hiring two career navigators to provide intensive/intrusive advising.

EICC was also successful in strengthening its connections with Industry Partners. Marketing of the program by the marketing coordinator, career navigators, project leaders, and faculty have succeeded in increasing potential students' and Industry Partners' awareness of the program. These efforts have led to an increase in the number of students enrolling in the program and an increase in participation in EICC PETC sponsored activities (e.g., joining the advisory board, participating in the Defining Conference) by Industry Partners. Industry Partners are aware that they can work with PETC instructors should they want specialized training for their employees.

The total number of students enrolled in the program, the total number of participants completing credit hours, and the total number of students retained in grant funded programs of study exceeded the projected goals. In addition, the potential to earn a good salary as a result of enrolling in the program was supported by the analysis. Results of the t-test analysis showed that participants in the treatment group were more likely than participants in the control group to have higher mean wages at Time 2. Based on the data provided by IWD, participants in the treatment group earned approximately \$4,500 more in reported quarterly wages than participants in the control group.

Overall, the program has been successful, is expected to grow and is expected to be sustained after the grant ends in September 2016.

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Appendices



Appendix A:

Milestone Completion Evaluation Report: Spring 2016

INTRODUCTION AND METHODOLOGY

The Eastern Iowa Community College (EICC) Pathways to Engineering Technology Careers (PETC) grant identifies project activities/milestones, along with the timeframe and deliverables expected to be completed with funding from the United States Department of Labor (DOL) TAACCCT program. To evaluate whether EICC successfully met these milestones, RISE staff regularly reviewed each quarterly report submitted by the PETC project director.

Milestone Tables. To track progress made in completing each milestone specified in the grant, RISE staff created a milestone table for each year of the grant (see Tables 1, 2, 3, and 4). Progress made in completing milestones was updated on a quarterly basis and data were compiled and reported annually and in aggregate using each of the 14 quarterly reporting cycles for the final report. Data utilized for the milestone tables encompasses activities from Fiscal Year 1, Quarter 1 through Fiscal Year 4, Quarter 2.

Reading Milestone Tables. Milestone tables indicate the overall progress made in meeting the milestones *by strategy* (shown in grey, see Tables 1-4) by fiscal year. The tables also indicate the progress made completing specific milestones (i.e., P=In Progress or C=Completed) by fiscal year. The table also indicates the overall progress made in meeting milestones *by priority* (shown in grey) by the end of each fiscal year.

COMPLETION OF PRIORITIES/MILESTONES RESULTS

EICC completed Priorities 1-6 by the end of Fiscal Year 3. Priority 7 will be completed by the end of Fiscal Year 4, Quarter 4 (September 30, 2016). The following describes Priorities and Milestones met by the EICC PETC program.

Priority 1: Establish Groundwork for Project – Completed in Fiscal Year 3

Milestone 1.1: Hire Instructional Designer, Instructional Technologist, and Career Navigator. Lucid Way was hired to provide instructional designer/technologist services in Fiscal Year 1, Quarter 4. Lucid Way worked with faculty in the development of the online curriculum and power concept videos. Two career navigators were hired by the PETC program in Fiscal Year 2, Quarter 1. Milestone 1.1 was completed in Fiscal Year 2, Quarter 1.

Milestone 1.2: Meet with External Evaluators. The project director met with the Research Institute for Studies in Education (RISE) external evaluation team on September 11, 2013 (Fiscal Year 1, Quarter 4). RISE submitted a revised evaluation plan covering the remaining three years of the grant. This milestone was completed in Fiscal Year 1, Quarter 4.

Milestone 1.3: Purchase PETC Equipment. EICC PETC team members inventoried equipment to determine whether new equipment was needed in Fiscal Year 1, Quarter 2. Milestone 1.3 was completed when the final piece of equipment was purchased in Fiscal Year 3, Quarter 2.

Priority 2: Develop Stacked and Latticed Credentials – Completed in Fiscal Year 2

Milestone 2.1: Develop contextualized developmental courses. EICC PETC utilized the DACUM process for development of their curriculum in Fiscal Year 1. Faculty representing each campus worked together to develop and update the curriculum. Faculty considered input/feedback provided by industry partners in the development of the curriculum. Contextualized remediation offered in the courses by adding extra scenarios and quizzes and incorporating them into the hybrid style of courses developed for the program. This milestone was completed in Fiscal Year 2, Quarter 3.

Milestone 2.2: Align credentials with NICET national competencies. This milestone was cancelled in Fiscal Year 1, Quarter 4 because NICET credentials are not available to students that do not graduate from an ABET accredited institution.

Milestone 2.3: Incorporate noncredit courses into credit program pathways. The faculty collaborated on the curriculum and completed the mirroring between the non-credit and credit courses. This milestone was completed in Fiscal Year 1, Quarter 4.

Milestone 2.4: Develop laddered A.S. and A.A.S. programs per industry needs. EICC faculty finalized coursework required to earn A.A.S. in the program by the end of Fiscal Year 1, Quarter 4. In the process, it was determined that an A.A.S. degree was sufficient to articulate to a four-year degree. The A.A.S. program was approved in Fiscal Year 2, Quarter 1 and a modification was submitted to the U.S. DOL TAACCCT program to delete the A.S. degree reference. This milestone was completed in Fiscal Year 2, Quarter 1.

Milestone 2.5: Develop PLA policies. Prior Learning Assessment (PLA) policies were reviewed in conjunction with review of PLA policies required for another round 2, consortium wide US DOL TAACCCT grant, the Iowa Advanced Manufacturing (I-AM) program. According to the Fiscal Year 2, Quarter 1 quarterly report: “EICC academic deans employ an existing well founded procedure to conduct assessment of prior learning. That procedure will suffice for engineering technology student PLA.” Therefore, this milestone completed in Fiscal Year 2, Quarter 1.

Priority 3: Develop Online Learning – Completed in Fiscal Year 2

Milestone 3.1: Develop hybrid A.S. and A.A.S. ET courses. Lucid Way developed the power concept online modules included in each of the Engineering Technology courses. These hybrid modules were developed to supplement courses while providing consistency across EICC campuses. This milestone was completed in Fiscal Year 2, Quarter 3.

Milestone 3.2: Four-year universities develop hybrid/online Bachelor degree coursework, as determined by Job Task Analyses. In Fiscal Year 1, Quarter 4, EICC staff identified several bachelor programs from universities in the region that may be suitable for pursuing articulation agreements. Unfortunately, both Western Illinois University and University of Iowa determined

that they did not have the staff nor the time to commit to developing the online coursework in this area. Therefore, this milestone was cancelled in Fiscal Year 2, Quarter 4.

Priority 4: Articulation of Credits/Credentials – Completed in Fiscal Year 2

Milestone 4.1: EICC partners with four-year institutions to develop articulation agreements for ET programs. EICC entered into articulation agreements with Western Illinois University, University of Iowa, and University of Northern Iowa. This milestone was completed in Fiscal Year 2, Quarter 2.

Milestone 4.2: ET programs transferable within state. The Engineering Technology program uses the same numbering system that is used in every other community college program in Iowa allowing students to easily transfer between community colleges. This milestone was completed in Fiscal Year 2, Quarter 1.

Priority 5: Strategic Alignment with Business/Industry, TAA State Agency – Completed in Fiscal Year 3

Milestone 5.1: Conduct Job Task Analyses with business/industry across the state. Job task analyses were conducted across the state on April 13, 2013 (Fiscal Year 1, Quarter 3). EICC PETC project leaders have been in contact with and have engaged Industry partners throughout the implementation of the PETC program to ensure that job task analyses are up to date. This milestone was completed in Fiscal Year 1, Quarter 3.

Milestone 5.2: Conduct Defining Conference with business/industry across Iowa. Business and industry leaders representing several key employers were invited to an EICC sponsored a Defining Conference held on November 7, 2013. This milestone was completed in Fiscal Year 2, Quarter 1.

Milestone 5.3: Industry representation on Advisory Board, curriculum development committees. Industry representatives hold seats on the EICC PETC advisory board and curriculum development committees and have provided input and feedback on development/update of the curriculum. This milestone was completed in Fiscal Year 3, Quarter 1.

Milestone 5.4: Engage employers to promote career pathways for their employees. Employers such as John Deere, HNI Corporation, Alcoa, and Fabricators Plus have provided opportunities for students by providing internships, field trip opportunities, and classroom presentations to the Engineering Technology students. Employers have also reached out to EICC at times to request personalized training for their employees. This milestone was completed in Fiscal Year 2, Quarter 3.

Milestone 5.5: Create joint marketing and outreach opportunities to reach TAA and other targeted populations through Iow@Work, other agencies. EICC PETC project leaders have met regularly with members of Iowa Workforce Development (IWD) to discuss ways that outreach

can be improved. EICC has also sought out feedback from industry regarding marketing strategies utilized by EICC throughout the implementation of the program. This milestone was completed in Fiscal Year 2, Quarter 3.

Milestone 5.6: Partner with agencies and industries on job fairs. Career fairs hosted by EICC have been well attended and have had good industry representation. This milestone was completed in Fiscal Year 2, Quarter 2.

Priority 6: Enroll Students, Provide Them with Enhanced Student Services— Completed in Fiscal Year 3

Milestone 6.1: Develop online ET Defining Chart and recruiting tool. A defining chart and recruiting tool were developed using input by participants at the Defining Conference held in November of 2013. They have been published and shared with each EICC campus. This milestone was completed in Fiscal Year 2, Quarter 2.

Milestone 6.2: Iow@Work/EICC recruit target populations. EICC project leaders, IWD personnel, and career navigators met regularly to discuss the best ways to target and recruit specific populations. IWD helped by identifying TAA eligible workers within the state of Iowa that could benefit from the PETC program. A marketing plan developed by EICC PETC described plans to target members of all populations. This milestone was completed in Fiscal Year 2, Quarter 3.

Milestone 6.3: Iow@Work/EICC register and enroll participants. EICC began enrolling students into the Engineering Technology program in Fiscal Year 2, Quarter 1. To facilitate enrollment, EICC created an intake form that identified students need for funding. This milestone was completed in Fiscal Year 3, Quarter 1.

Milestone 6.4: Iow@Work/EICC provide students with ISPs, supports and case management. Career Navigators and representatives from Iow@Work and IWD developed individual success plans (ISPs) for each student enrolled in the PETC program. This milestone was completed in Fiscal Year 2, Quarter 4.

Milestone 6.5: Community based organizations provide services to targeted students. Community based organizations that could provide services to targeted populations of students were identified by EICC and IWD. This milestone was completed in Fiscal Year 2, Quarter 4.

Priority 7: Evaluate DOL Program— To Be Completed in Fiscal Year 4

Milestone 7.1: Evaluate college courses. EICC updated the program curriculum to allow students to transfer between EICC campuses with ease. The update involved evaluation of courses and feedback from industry. Evaluation of courses so that the courses remain current with industry standards is a process that faculty engage in on a continuous basis. This milestone was completed at the end of the grant on September 30, 2016.

Milestone 7.2: Analyze outcome projections. Student outcomes data was sent to IWD in Fiscal Year 4, Quarter 1. IWD added wage data to the dataset received by EICC. IWD de-identified the data and shared it with RISE for outcomes data analysis in Fiscal Year 4, Quarter 3. This milestone was completed at the end of the grant with the submission of RISE's final report.

Milestone 7.3: Continuously assess and refine approaches to improve retention and achievement rates to reduce time to completion. A Quality Improvement Team reviewed each component of every course to ensure each student is successful. Tutorials for math and study skills were created for student use. This milestone was completed at the end of the grant on September 30, 2016.

Milestone 7.4: Develop a sustainability plan. The EICC Chancellor indicated that the Engineering Technology program would be funded indefinitely in Fiscal Year 2, Quarter 3. Based on interviews with college leadership, the program has been successful and will continue to be offered on their campuses. This milestone was completed in Fiscal Year 2, Quarter 3.

Milestone 7.5: Write final report, submit to DOL. The final report was written in the final months of the grant. This milestone was completed at the end of the grant on September 30, 2016.

Milestone 7.6: Outreach and Dissemination. Project leaders (e.g., project director, career navigators) were involved in outreach and dissemination, making presentations both internally and to community organizations, schools, and industry/business partners. This milestone was completed at the end of the grant on September 30, 2016.

Table 1. Milestone Progress. Fiscal Year 1, Quarter 4 (Q3 2013).

Priorities and Milestones	Status
<i>Priority 1: Establish Groundwork for Project</i>	<i>P Y1</i>
1.1: Hire Instructional Designer, Instructional Technologist, and Career Navigator	P Q4
1.2: Meet with External Evaluators	C Q4
1.3: Purchase PETC equipment	P Q4
<i>Priority 2: Develop Stacked and Latticed Credentials</i>	<i>P Y1</i>
2.1: Develop contextualized developmental courses	P Q4
2.2: Align credentials with NICET national competencies	Cancelled Q4
2.3: Incorporate noncredit courses into credit program pathways	C Q4
2.4: Develop ladder A.S. and A.A.S. programs per industry needs	P Q4
2.5: Develop PLA policies	P Q4
<i>Priority 3: Develop Online Learning</i>	<i>P Y1</i>
3.1: Develop hybrid A.S. and A.A.S. ET courses	P Q4
3.2: Four-year universities develop hybrid/online Bachelor degree coursework, as determined by Job Task Analyses	P Q4
<i>Priority 4: Articulation of Credits and Credentials</i>	<i>P Y1</i>
4.1 EICC partners with four-year institutions to develop articulation agreements for ET programs	P Q4
4.2: ET programs transferable within state	P Q4
<i>Priority 5: Strategic Alignment with Business/Industry, TAA State Agency</i>	<i>P Y1</i>
5.1: Conduct Job Task Analyses with business/industry across the state	C Q3
5.2: Conduct Defining Conference with business/industry across Iowa	P Q4
5.3: Industry representation on Advisory Board, curriculum development committees	P Q4
5.4: Engage employers to promote career pathways for their employees	P Q4
5.5: Create joint marketing and outreach opportunities to reach TAA and other targeted populations through Iow@Work, other agencies	P Q4
5.6: Partner with agencies and industries on job fairs	P Q4
<i>Priority 6: Enroll Students, Provide Them with Enhanced Student Services</i>	<i>P Y1</i>
6.1: Develop online ET Defining Chart and recruiting tool	P Q4
6.2: Iow@Work/EICC recruit target populations	P Q4
6.3: Iow@Work/EICC register and enroll participants	
6.4: Iow@Work/EICC provide students with ISPs, supports and case management	
6.5: Community based organizations provide services to targeted students	
<i>Priority 7: Evaluate DOL Program</i>	<i>P Y1</i>
7.1: Evaluate college courses	P Q4
7.2: Analyze outcome projections	ND
7.3: Continuously assess and refine approaches to improve retention and achievement rates to reduce time to completion	ND
7.4: Develop a sustainability plan	ND
7.5: Write final report, submit to DOL	ND
7.6: Outreach and Dissemination	P Q4


Key: C = Completed, P = In Progress, ND = No Data/No Report,  = Before Start Date
 Q1 = October – December; Q2 = January – March; Q3 = April – June; Q4 = July – September
 Y1 = Fiscal Year 1; Y2 = Fiscal Year 2; Y3 = Fiscal Year 3; Y4 = Fiscal Year 4

Table 2. Milestone Progress. Fiscal Year 2, Quarter 4 (Q3 2014).

Priorities and Milestones	Status
<i>Priority 1: Establish Groundwork for Project</i>	<i>P Y2</i>
1.1: Hire Instructional Designer, Instructional Technologist, and Career Navigator	C Q1
1.2: Meet with External Evaluators	C Y1
1.3: Purchase PETC equipment	P Q4
<i>Priority 2: Develop Stacked and Latticed Credentials</i>	<i>C Y2</i>
2.1: Develop contextualized developmental courses	C Q3
2.2: Align credentials with NICET national competencies	Cancelled Y1
2.3: Incorporate noncredit courses into credit program pathways	C Y1
2.4: Develop ladder A.S. and A.A.S. programs per industry needs	C Q1
2.5: Develop PLA policies	C Q1
<i>Priority 3: Develop Online Learning</i>	<i>C Y2</i>
3.1: Develop hybrid A.S. and A.A.S. ET courses	C Q4
3.2: Four-year universities develop hybrid/online Bachelor degree coursework, as determined by Job Task Analyses	Cancelled Q4
<i>Priority 4: Articulation of Credits and Credentials</i>	<i>C Y2</i>
4.1: EICC partners with four-year institutions to develop articulation agreements for ET programs	C Q2
4.2: ET programs transferable within state	C Q1
<i>Priority 5: Strategic Alignment with Business/Industry, TAA State Agency</i>	<i>P Y2</i>
5.1: Conduct Job Task Analyses with business/industry across the state	C Y1
5.2: Conduct Defining Conference with business/industry across Iowa	C Q1
5.3: Industry representation on Advisory Board, curriculum development committees	P Q4
5.4: Engage employers to promote career pathways for their employees	C Q3
5.5: Create joint marketing and outreach opportunities to reach TAA and other targeted populations through Iow@Work, other agencies	C Q3
5.6: Partner with agencies and industries on job fairs	C Q2
<i>Priority 6: Enroll Students, Provide Them with Enhanced Student Services</i>	<i>P Y2</i>
6.1: Develop online ET Defining Chart and recruiting tool	C Q2
6.2: Iow@Work/EICC recruit target populations	C Q3
6.3: Iow@Work/EICC register and enroll participants	P Q4
6.4: Iow@Work/EICC provide students with ISPs, supports and case management	C Q4
6.5: Community based organizations provide services to targeted students	C Q4
<i>Priority 7: Evaluate DOL Program</i>	<i>P Y2</i>
7.1: Evaluate college courses	P Q4
7.2: Analyze outcome projections	P Q4
7.3: Continuously assess and refine approaches to improve retention and achievement rates to reduce time to completion	P Q4
7.4: Develop a sustainability plan	C Q3
7.5: Write final report, submit to DOL	ND
7.6: Outreach and Dissemination	P Q4

Key: C = Completed, P = In Progress, ND = No Data/No Report, ☐ = Before Start Date
 Q1 = October – December; Q2 = January – March; Q3 = April – June; Q4 = July – September
 Y1 = Fiscal Year 1; Y2 = Fiscal Year 2; Y3 = Fiscal Year 3; Y4 = Fiscal Year 4

Table 3. Milestone Progress. Fiscal Year 3, Quarter 4 (Q3 2015).

Priorities and Milestones	Status
<i>Priority 1: Establish Groundwork for Project</i>	C Y3
1.1: Hire Instructional Designer, Instructional Technologist, and Career Navigator	C Y2
1.2: Meet with External Evaluators	C Y1
1.3: Purchase PETC equipment	C Q2
<i>Priority 2: Develop Stacked and Latticed Credentials</i>	C Y2
2.1: Develop contextualized developmental courses	C Y2
2.2: Align credentials with NICET national competencies	Cancelled Y1
2.3: Incorporate noncredit courses into credit program pathways	C Y1
2.4: Develop ladder A.S. and A.A.S. programs per industry needs	C Y2
2.5: Develop PLA policies	C Y2
<i>Priority 3: Develop Online Learning</i>	C Y2
3.1: Develop hybrid A.S. and A.A.S. ET courses	C Y2
3.2: Four-year universities develop hybrid/online Bachelor degree coursework, as determined by Job Task Analyses	Cancelled Y2
<i>Priority 4: Articulation of Credits and Credentials</i>	C Y2
4.1: EICC partners with four-year institutions to develop articulation agreements for ET programs	C Y2
4.2: ET programs transferable within state	C Y2
<i>Priority 5: Strategic Alignment with Business/Industry, TAA State Agency</i>	C Y3
5.1: Conduct Job Task Analyses with business/industry across the state	C Y1
5.2: Conduct Defining Conference with business/industry across Iowa	C Y2
5.3: Industry representation on Advisory Board, curriculum development committees	C Q1
5.4: Engage employers to promote career pathways for their employees	C Y2
5.5: Create joint marketing and outreach opportunities to reach TAA and other targeted populations through Iow@Work, other agencies	C Y2
5.6: Partner with agencies and industries on job fairs	C Y2
<i>Priority 6: Enroll Students, Provide Them with Enhanced Student Services</i>	C Y3
6.1: Develop online ET Defining Chart and recruiting tool	C Y2
6.2: Iow@Work/EICC recruit target populations	C Y2
6.3: Iow@Work/EICC register and enroll participants	C Q1
6.4: Iow@Work/EICC provide students with ISPs, supports and case management	C Y2
6.5: Community based organizations provide services to targeted students	C Y2
<i>Priority 7: Evaluate DOL Program</i>	P Y3
7.1: Evaluate college courses	P Q4
7.2: Analyze outcome projections	P Q4
7.3: Continuously assess and refine approaches to improve retention and achievement rates to reduce time to completion	P Q4
7.4: Develop a sustainability plan	C Y2
7.5: Write final report, submit to DOL	ND
7.6: Outreach and Dissemination	P Q4

Key: C = Completed, P = In Progress, ND = No Data/No Report, ☐ = Before Start Date
 Q1 = October – December; Q2 = January – March; Q3 = April – June; Q4 = July – September
 Y1 = Fiscal Year 1; Y2 = Fiscal Year 2; Y3 = Fiscal Year 3; Y4 = Fiscal Year 4

Table 4. Milestone Progress. Fiscal Year 4, Quarter 4 (Q3 2016).

Priorities and Milestones	Status
<i>Priority 1: Establish Groundwork for Project</i>	C Y3
1.1: Hire Instructional Designer, Instructional Technologist, and Career Navigator	C Y2
1.2: Meet with External Evaluators	C Y1
1.3: Purchase PETC equipment	C Y3
<i>Priority 2: Develop Stacked and Latticed Credentials</i>	C Y2
2.1: Develop contextualized developmental courses	C Y2
2.2: Align credentials with NICET national competencies	Cancelled Y1
2.3: Incorporate noncredit courses into credit program pathways	C Y1
2.4: Develop ladder A.S. and A.A.S. programs per industry needs	C Y2
2.5: Develop PLA policies	C Y2
<i>Priority 3: Develop Online Learning</i>	C Y2
3.1: Develop hybrid A.S. and A.A.S. ET courses	C Y2
3.2: Four-year universities develop hybrid/online Bachelor degree coursework, as determined by Job Task Analyses	Cancelled Y2
<i>Priority 4: Articulation of Credits and Credentials</i>	C Y2
4.1: EICC partners with four-year institutions to develop articulation agreements for ET programs	C Y2
4.2: ET programs transferable within state	C Y2
<i>Priority 5: Strategic Alignment with Business/Industry, TAA State Agency</i>	C Y3
5.1: Conduct Job Task Analyses with business/industry across the state	C Y1
5.2: Conduct Defining Conference with business/industry across Iowa	C Y2
5.3: Industry representation on Advisory Board, curriculum development committees	C Y3
5.4: Engage employers to promote career pathways for their employees	C Y2
5.5: Create joint marketing and outreach opportunities to reach TAA and other targeted populations through Iow@Work, other agencies	C Y2
5.6: Partner with agencies and industries on job fairs	C Y2
<i>Priority 6: Enroll Students, Provide Them with Enhanced Student Services</i>	C Y3
6.1: Develop online ET Defining Chart and recruiting tool	C Y2
6.2: Iow@Work/EICC recruit target populations	C Y2
6.3: Iow@Work/EICC register and enroll participants	C Y3
6.4: Iow@Work/EICC provide students with ISPs, supports and case management	C Y2
6.5: Community based organizations provide services to targeted students	C Y2
<i>Priority 7: Evaluate DOL Program</i>	P Y4
7.1: Evaluate college courses	C Q4
7.2: Analyze outcome projections	C Q4
7.3: Continuously assess and refine approaches to improve retention and achievement rates to reduce time to completion	C Q4
7.4: Develop a sustainability plan	C Y2
7.5: Write final report, submit to DOL	C Q4
7.6: Outreach and Dissemination	C Q4

Key: C = Completed, P = In Progress, ND = No Data/No Report, ☐ = Before Start Date
 Q1 = October – December; Q2 = January – March; Q3 = April – June; Q4 = July – September
 Y1 = Fiscal Year 1; Y2 = Fiscal Year 2; Y3 = Fiscal Year 3; Y4 = Fiscal Year 4



Appendix B:

Deans/Director/PI, Faculty, and Lucid Way Interviews: Spring 2014

METHODOLOGY

The interviews of the Deans/Directors/PI, faculty members, and career navigators of EICC’s PETC program were conducted in Fiscal Year 2, Quarter 2. These interviews took place on February 25, 2014. This report details results of an evaluation activity related to the Evaluation of Program Implementation of the PETC program.

Table 1

Role	Name	Title	College/Site
Leadership:	Ron Serpliss	Dean of College	Clinton Community College
	Gail Spies	Dean of College	Muscatine Community College
	Bob Allbee	President, PI	Muscatine Community College
	Dan Martin	Director	Blong Technology Center
Faculty:	Ben Kettering		Blong Technology Center
	Art Kistler		Muscatine Community College
	Dave Wallace		Clinton Community College
Instructional Designer:	Tim Hunter	CEO	Lucid Way, Inc.

Deans/Directors/PI

The Deans/Directors/PI were asked a series of questions regarding the efforts surrounding the PETC program, the curriculum development and continuous quality improvement, the modular instructional method, and the impact of the program. Questions regarding the efforts surrounding the program included success in attracting students, willingness of the faculty, curriculum development/improvement, integration of curriculum, and industry support.

Faculty

The faculty were asked a series of questions regarding their role in the Engineering Technology (ET) program, their classroom setup, and lessons learned. In regards to the faculty’s classroom setup, they were asked about specific preparations, curriculum development, and professional development. Faculty were also asked about the lessons learned so far including their adjustment to the new modular format, the students’ adjustment to the new modular format, reactions to the changes, and sustainability.

Lucid Way

The instructional designer from Lucid Way was asked a series of questions regarding the power concepts Lucid Way’s is designing for the ET program at EICC.

Implementation Analysis Research Question

These interviews answered: “How were programs and program design improved or expanded using grant funds?” – one of the TAACCCT grant required research questions. In particular, the discussion of the new eight-week terms used as part of the PETC program to facilitate more flexibility for the student. Also, the responses regarding the new/improved curriculum and power concepts answered this question.

INTERVIEW REPORT

PROGRAM LEADERSHIP

How do you think the project is going so far?

Overall, the leadership thinks that the Engineering Technology program is going well although it has taken much effort on the part of the administration and faculty in getting the program moving in the right direction. In particular, there has been quite a bit of effort exerted in meetings, in the development of curriculum for the program, hiring new staff, getting new staff up to speed, and getting everyone on board with the program and eventually on the same page. While some resistance to the changes by faculty was expected, it has not been quite as much as anticipated. Leadership was involved in the planning and development of the project when it first started and hiring Wayne Merrell as DOL Grant Director has provided structure by taking on the day-to-day activities of the program. Despite some angst felt by some members of the leadership, they were optimistic that the program was “going to be a good thing in the end.”

Success in attracting students, displaced workers, and providing support to them

Class sizes are smaller than what the leadership would like to see and recruitment of students has been somewhat slow and challenging. There was some frustration expressed in knowing that there are folks in their community that can benefit from the programs they offer, but have found that making good connections with them is not easy. However, because the grant provided an opportunity for each college to recruit a career navigator, leadership is optimistic that the recruitment of students will increase. The Career Navigators hired by each college have extensive backgrounds working for the college and/or have established ties with industry. Some recruitment activities include making connections with high school counselors and creating a pipeline with parents in an effort to recruit more high school students that would choose Engineering Technology as a career. Recruitment activities also include hiring a new instructor to teach some evening classes in order to provide additional opportunities for students to come in and take modular classrooms. It is anticipated that more students will be enrolled in the program by the start of the fall semester. Because the program has more opportunities for evening classes, perhaps they will be able to pick up additional students who are currently full-time employees that are seeking to move to the next level.

Progress in marketing the program

Several marketing activities have been employed to promote the Engineering Technology Program to potential students including hosting open houses, career day(s), a defining conference, development of posters, brochures, and postcards to targeted populations and the creation of a website along with a Facebook page and advertising on the radio and in newspapers. Leadership is also sharing information about the program with social service agencies in their respective communities as well as building on their relationships with IowaWORKS (a collaboration of workforce partners) and business partners. Leadership indicated that a challenge in marketing the program has been in ensuring that the information gets to the targeted audience as well as getting dislocated workers and incumbent workers seeking additional training to be interested in Engineering Technology.

Hiring and training

New faculty have been hired, however, leadership indicated that there will be a need to hire more faculty within the next couple of years. Faculty are often recruited from industry because they have the experience and degree(s) needed for the job. A major challenge facing faculty will be getting ready for the modularized method of teaching; however, it is anticipated that professional development will help in making the transition.

Curriculum Development

The goal of the project is to have a common syllabus with the same programs and classes offered at each of the three colleges so that students can go to any of the colleges as needed and allowing credits to transfer easily. A common core curriculum was put together by faculty along with three concentration areas (electro-mechanical, process control, and automation) with much of it based on industry needs. Faculty are working together to determine which courses are needed. An initial challenge was bringing everyone together with a shared vision of what the engineering technology program should look like and how to go about making it world class.

Leadership indicated that they were fortunate that there was funding for curriculum development and instructional design. They like the direction that the instructional designer hired to work with faculty is going in, although they have not seen the work that has been done.

Integration of curriculum and method of delivery across campuses

The model for the program is based on the modular model currently being used at the Blong Technology Center (BTC). The other colleges will make the transition to the BTC model as modules are developed and incorporated into the curriculum. Overall, faculty members are excited about the curriculum as a whole. There was some concern that while the bulk of the curriculum remained the same along with the addition of new courses, something would be lost in the delivery method. In particular, there was concern about how students accustomed to a traditional classroom setting will do when they courses become modularized. Not all faculty are quite ready for a fully modularized system because “we’ve taught our classes in a traditional 8 or 16 week face-to-face format.” Leadership, however, was optimistic that professional

development would help faculty make the transition to online modules and simulations. The changes in delivery method will make courses “more accessible than some of the things that we currently [have].” Two of the campuses have not completely set up their labs, so the infrastructure has to be built in place. There is an expectation that in the end, the change will benefit students, and faculty will be pleased with the end product.

Industry support

Employers were included in discussions about the curriculum from the start and provided input regarding hiring needs and skills needed. Many of the local employers are on board with the engineering technology program and have had a voice in the creation of the curriculum ensuring that classes necessary for their companies are still included in the program. Employers have also been reassured that EICC would continue to offer courses such as machining, welding and other maintenance type classes. In addition, employers are “more than happy [to serve as advisory members]. Along with their participation on advisory committees, comes “recommendations for curriculum [and] recommendations for equipment.”

The local companies are invested in this program, sending students, offering to pay for their tuition and donating equipment. These companies are motivated to help out because they see a “high percentage of their skill trades people retiring in the next few years.”

Articulation

EICC has articulation agreements with or is in the process of getting articulation agreements with several universities. The University of Northern Iowa (UNI) was seen as very receptive to the articulation agreement. UNI suggested that in addition to the three strands proposed, EICC consider a calculus-based strand for students who know they want to pursue a bachelor’s degree, allowing them to be ready to make the transfer without having to do prep work. EICC is also working with Western Illinois University (WIU) on an agreement; however, while WIU has an engineering technology program it more of a technology-based engineering. St. Ambrose University and the University of Iowa are two other universities that EICC has been working with to develop articulation agreements.

What do you think this project will mean to your college and/or system?

Overall, the leadership feels that the program will be sustainable after the grant is over. The Quad Cities by nature has a manufacturing base so local industries will continue to need new employees. EICC will continue to build up the program and work hard on recruiting new students. Because the strength of the faculty is critical in sustaining the program, there is a need to consider that several faculty members will be retiring sometime in the next few years and will therefore need to be replaced.

Leadership is also hopeful that the program can continue to grow capacity requiring additional facilities, labs, and instructors. Overall, it is a win-win for the community, business, and the college because workers are needed so badly. Because the three colleges are drawn together, students will be able to start and finish at any of the three colleges without losing anything. It is a

new way of doing things that will take some getting used to, but there is nothing that cannot be accomplished.

FACULTY

At the time of the interview, two (Muscatine and Clinton) of the three campuses were in the process of transitioning to eight-week modules and would not begin implementation of the eight-week modules until Fall, 2014. As a result, many of the responses from Muscatine and Clinton faculty members reflect expectations of what will happen rather than actual experiences. All faculty members interviewed were very passionate about what they do and are greatly concerned about students.

Tell me about your role in the Engineering Technology (ET) program?

Faculty members interviewed all have a role in the development of the curriculum and the courses. Faculty from the three colleges will share responsibility for developing courses within their specialty (process control, automation or mechanical) at their respective colleges. While faculty were well versed about the Engineering Technology Program itself, there were some differences related to expectations about the process. For example, not knowing how it will work given that there are still students in the current program that need to finish up, or not sure how the interactive videos being developed by Lucid Way will work given that they have not seen them.

What does your classroom look like?

The Blong Technology Center (BTC) is currently the only college that does not have a structured class; all course modules are offered in eight-week cycles. The modules are self-paced allowing students to attend at their convenience; students come in and if they need assistance either doing a lab or assistance with something they do not understand, faculty are there to help. While the Blong Technology Center (BTC) utilizes the eight week module model delivery method, the other two colleges are in a period of transition. Muscatine and Clinton are in the process of switching over from their current sixteen week classroom model to the eight week module BTC model and expect to begin offering them in August, 2014.

Although the other two colleges are in the process of converting to the module model, there are some similarities with the BTC model relative to their structure. Students in the other colleges also come in to work, follow a study guide, and go over the textbook, complete labs, assignments and other activities, and if they need additional help, they ask for it. Missing are the multimedia supplements, requiring faculty to go over the “sticky parts” of the curriculum to supplement the textbook.

What did you do to get ready in order to implement the program in January?

All three campuses are in the process of implementing the Engineering Technology program as planned. However, at the time of the interview, Muscatine and Clinton were not expected to begin implementation until Fall, 2014.

Faculty members at Muscatine and Clinton are attempting to adjust to the difference in curriculum. The “biggest thing is going to be getting all this, the curriculum put online and then so the students have access to [it].” Other challenges for faculty include time needed to get the courses ready for implementation, an increase in the number of subjects to be covered, and going “back and forth between doing labs.” Some faculty are having difficulty adjusting to the delivery method. In particular, this change may well be the most difficult as faculty no longer see themselves as “teaching.” Some faculty are not sure what the process for storing/sharing the videos being developed by Tim Hunter (Lucid Way) will be. They are not sure whether “they’re going to be stored on a central server or if they’re going to be on disks or what. You know we haven’t ironed it out, or at least I haven’t heard, maybe they’ve ironed it out.”

Faculty also indicated that they are concerned that some full-time students will have difficulty going from a 16 week model to eight-week model because of the need to spend more hours per week than previously in order to complete the module. Also, the format may be difficult for students who are not used to this model of delivery. There are a few students that enrolled in the previous program and faculty would prefer that these students complete the program in its original format given that these students may have a preference for the in-classroom type of lecture-lab model.

Marketing/Recruitment of Students

Faculty from the BTC indicated that their students are better prepared than students from some of the private colleges in the surrounding area. As such, a question about whether EICC was doing enough to recruit students (e.g., marketing) was brought up during the interview. BTC faculty indicated that they can easily accommodate more students. Faculty from the other two colleges indicated that they believe personnel at their respective colleges are doing a good job recruiting students. However, faculty would like to see more students in their classrooms and believe that not enough to promote the program is being done.

Professional Development

Faculty did indicate that there are a few professional development activities centered on the instructional design and training on the new modules.

Lab set-up/equipment

In general, most of the equipment needed (e.g., more Trainers) have been delivered or have been ordered, while some of the equipment currently on hand just needs to be updated. While much of the equipment is similar in nature, there are some differences related to brand and function. These differences reflect preferences by faculty and attempts at meeting the needs of the local

companies working with individual colleges. Companies often have specific equipment requirements or types of equipment that they use.

For the most part, the BTC lab is already set up and has been in place since the building opened while Muscatine and Clinton still need to make some adjustments with regards to configuration. Faculty from both Muscatine and Clinton indicated that the lab set-up/layout at their respective colleges is not ideal. At one college, the rooms are currently at opposite ends of the building making it difficult to go between them, while the other college has a nice classroom setup, but their lab space is shared among five different programs/classes. One faculty member indicated that the number of benches available for use may limit the number of students in a class. For example, “if I have a class of fifteen people I have to seat all fifteen people on lab benches and I have fourteen places on my lab benches. I mean we could squeeze fifteen people in if we have to, but that isn't ideal.”

Curriculum development and level of input into developing the curriculum

A core group of classes were identified when developing the Engineering Technology curriculum. Responsibility for developing “new” classes will be split between the three campuses: Clinton will be primarily responsible for developing process control classes; Muscatine will develop automation classes, and BTC will be responsible for developing mechanical classes. Standardizing the curriculum will be somewhat of a challenge because the faculty expertise in a particular area and/or equipment can vary by college. Level of effort in developing the new courses/modules may also vary between colleges, for example, at Muscatine, 10 out of 12 courses need to be developed from scratch (i.e., new material and new textbooks) whereas the BTC may have the majority of courses/modules already developed. Faculty will continue to work with Lucid Way to develop interactive modules and simulations that incorporated into the modules and offered online. At the time of the interview, Lucid Way was working on the first course and faculty had not had the opportunity to see the final product. The final goal is that all developed modules will be used at each of the three colleges.

Once the modules are in place, students should be able to access them online and will know what they need to do in order to meet the requirements and objectives (e.g., reading, problem and lab assignments, and tests). Although the modules will be shared among the colleges, each college will have some flexibility with the modules so that faculty who choose to do so can use a different textbook or materials as long as the same material is covered.

What did you need to do or have prior to starting in January that you didn't do or have?

This was a difficult question to answer because Muscatine and Clinton had not yet started offering the eight-week modules. However, in looking ahead, it appears “time” is the thing most needed and “would make life a little easier.”

Now that you're teaching, what is going well or not so well?

Not much has changed at the Blong Technology Center relative to delivery method or the way in which they interact with students. The other campuses have not yet made the switch so at this time what is going well or not so well is speculation.

Lessons Learned

Lesson learned from the perspective of the organization is to get things “started quicker, get people hired quicker.”

What do you need to move forward?

The overarching theme relative to what is needed to move forward is making the adjustment from a traditional classroom (lecture-lab format) to the modules delivered online. However, faculty has indicated that whatever works for students is what's important, “whether it works for me is secondary.”

LUCID WAY (INSTRUCTIONAL DESIGN)

Talk about the progress in developing the curriculum and online courses

Lucid Way, led by Tim Hunter was hired in late 2013 by Eastern Community College to assist with designing the interactive modules. In the beginning, Lucid Way 's primary focus was working on figuring out the process, coming up with a prototype; figuring out colors, templates and making sure that the instructors are on board. The framework for the interactive modules is based on the model currently used by the Blong Technology Center (BTC). Development of the interactive modules consists of “3-D development, storyboards, LMS development, narration” and working with faculty members who specialize in the specific area of the module being developed. An important aspect of the interactive modules is the inclusion of “Power Concepts” which are based on key concepts that have been identified by faculty as areas that “students have problems with.” Students are provided with videos, help files and are asked to test their knowledge along the way.

Tim indicated that one of the goals in developing the modules was to share the finished products with other colleges (regionally and perhaps nationally). The modules will use tools such as Storyline and will package them as form and web files allowing instructors to utilize them, so sharing can occur. The modules are also being developed to accommodate students that are not up on the latest technology, “they just have to hit continue” to move forward.

Tim also indicated that he has been “meeting with all the IT people at the college, and just making sure that anything [they] do isn't going to disrupt their IT infrastructure.”

What's been completed? How are you doing on timeline?

There are about 22 courses that need to be developed, Lucid Way is “going to do six courses this year” and “going to try to do the rest of them next year.” They are “on schedule right now [and] almost done with the first course.” Lucid Way projects that they will complete one course every two months so that by the end of the year, they will have completed the six courses. Tim indicated that he wants to “get faster than that,” but they are “figuring out [the] process” and “making sure the instructors are on board and everybody's okay with the situation.” They would prefer to get nine completed rather than six, and then nine next year. If the contract is extended, Lucid Way can get the rest of the courses done.

What challenges are you or have you faced?

Tim reported that they sometimes have to tone down what they are doing because the current IT infrastructure is behind. Tim reports “the Wi-Fi here is very slow, so I mean there's just certain things we have to address, and it affects on how we do things.” The infrastructure issues became evident when Tim was demonstrating the progress made on one of the modules, for example, it took a while to get it loaded followed by constant video buffering. Students will likely become frustrated and complain that the modules are not working when it is the Wi-Fi. In addition, Tim reported that the software (e.g., Flash Players) is not always updated on a regular basis. However, when asked to address the problem, the college IT personnel are quick to respond.

Faculty differ in opinion about “what’s good and what’s not” so Tim has had to “meet that balance.” According to Tim, the proposed setup does not require that faculty change anything, but rather he thinks that it will “make their life easier.” One of his roles as the instructional designer on this project is to help instructors through the process. Once faculty see the interactive modules, “it should make more sense” to them and hopefully, they will be on board.

What else do you need to move forward?

“Wi-Fi is a big thing.” Getting faculty on board with changes is another challenge. Support from Wayne Merrell has been good in moving things forward.



Appendix C:

Deans/Director/PI and Faculty Interviews: Spring 2015

METHODOLOGY

Participants

Interviews with Deans/Directors/PI and faculty members of EICC’s PETC program were conducted on March 12, 2015 (Fiscal Year 3, Quarter2). The following report describes a summary of these interviews. Personnel that participated in the interviews are identified in Table 1 below.

Table 1.
EICC Personnel Participating in Implementation Evaluation Interviews

Role	Name	Title	College/Site
Leadership:	Ron Serpliss	Dean of College	Clinton Community College
	Gail Spies	Dean of College	Muscatine Community College
	Bob Allbee	President, PI	Muscatine Community College
	Dan Martin	Director	Blong Technology Center
Faculty:	Ben Kettering		Blong Technology Center
	Wayne Carter		Blong Technology Center
	Art Kistler		Muscatine Community College
	Dave Wallace		Clinton Community College
	Steve R. Harfst		Muscatine Community College/Clinton Community College

Methods

Deans/Directors/PI. College Leaders were interviewed about the EICC PETC program regarding their thoughts and perceptions about the implementation of the PETC program on their campuses. Leaders were asked about recruiting of students, marketing activities, their perceptions about the willingness of faculty to fully implement the PETC program, curriculum development, industry support and their thoughts about the acceptance of the modular instructional methods by students.

Faculty. The faculty were asked a series of questions regarding their role in the Engineering Technology (ET) program, their classroom setup and preparations, their role in development of the curriculum, lessons learned, thoughts about the implementation of the modular instructional methods and thoughts about ensuring that the program is top quality.

Implementation Analysis Research Question

College Leaders and Faculty interview responses partially answer the following TAACCCT grant required research question.

- “How were programs and program design improved or expanded using grant funds?”

In the following report, college leaders discuss the implementation of eight-week terms in the PETC program, curriculum development, development of power concepts and the integration of the curriculum and the method of delivery across each EICC campuses. College leaders describe how the change to the eight-week program has impacted their community college, their students and faculty and their efforts to market the program to the community. Faculty describe their role in the development and implementation of the curriculum, their adjustment to the changes, and how it has affected them and their students.

INTERVIEW REPORT: COLLEGE LEADERSHIP

The following describes the results of the interviews conducted with the EICC PETC college and project leadership and faculty members on March 12, 2015 by RISE personnel. College leadership were asked to rate each of the following implementation areas on a scale of 1-10 (with 1 being poor and 10 being excellent) followed by an explanation of their rating (see Table 2 for a summary of their ratings).

Table 2.
Summary of EICC Leadership Ratings of Implementation Areas

	Bob Allbee	Gail Spies	Ron Serpliss	Dan Martin	Mean Rating
1. Success in attracting students, including displaced workers and providing appropriate support	9	9	6	8.5	8.1
2. Efforts to market the program to the community	9.5	9.5	7	--	8.7
3. Willingness of the faculty to fully implement the modular instructional method	5	4	10	10	7.3
4. Curriculum development and continuous quality improvement	9	9	8	9.5	8.9
5. Integration of curriculum and method of delivery across all three colleges	7	6.5	3.5	9	6.5
6. Industry support	10	10	9	10	9.8

1. *Success in attracting students, including displaced workers and providing appropriate support*

Overall, college leadership reported that they have had success in attracting students across the campuses suggesting that the program is needed. Enrollment has been strong in the program due in large part to the work of the PETC career navigator, Katie Watson. She has played a pivotal role in recruiting/attracting/retaining of students, providing support once they enroll, and engaging with each student in the program.

Although the community colleges have experienced some “positive growth,” there was some expectation that there would be more students enrolling given their reputation with employer partners. There are also less displaced workers enrolling than expected because there just aren’t many TAACCCT eligible workers in the area that they can recruit. They do try to recruit displaced workers when needed, for example, they have enrolled workers that were recent layoffs from John Deere.

One college leader questioned whether they will have money after the grant has ended to continue funding a career navigator. Leadership will need to explore how to continue what they view as a successful aspect of the program.

2. *Efforts to market the program to the community*

The marketing of the PETC program has gone rather well. In particular, one of the program directors indicated that marketing of the program is largely responsible for a boost in enrollment and thought that it would help to market all of their programs in a similar manner. The project director and marketing person have come up with some great ideas for promoting the program. They have developed brochures that not only describe the program to potential students but are also visually pleasing. College leaders also expressed pride that a commercial developed for the EICC PETC program won an Eddy Award (an award that celebrates excellence in publishing).

Although marketing to high school students is not paid for by the grant, college leaders have voiced the need engage in outreach with high schools to make potential students aware that there are available jobs in the area, that the jobs pay well, and that they would enjoy the classwork.

3. *Willingness of the faculty to fully implement the modular instructional method*

Willingness of the faculty to fully implement the program varies somewhat across campuses. Initially, it was somewhat of a struggle for some given that it is a very different model of instruction from what some of used to, however, it seems to be moving forward. The concern among those faculty members that were initially hesitant is related to their perceptions of how students accustomed to a traditional classroom are adjusting to the changes. There was also some hesitation with regards to using the same curriculum and textbooks. College leaders acknowledge that the requirement to use the same textbook across campuses poses a challenge because it is not required for any other program that is offered across campuses. They noted that when some faculty members were able to get past their initial hesitations,

they started to embrace some of the changes such as becoming excited about purchasing and setting up new equipment. However, in spite of these challenges, faculty have made growth and college leaders expect that the growth will continue. In particular, there is an expectation that in the coming year, all faculty will be on board with the changes, provide support to students, and that they will not down play the modular system. In addition, there will be some changes in faculty in the coming year with one faculty member retiring in August.

4. *Curriculum development and continuous quality improvement*

Overall, college leaders are happy with the development and implementation of the curriculum. Faculty collaborated on curriculum, identifying requirements, aligned competencies, selected textbooks, and updating courses. College leaders agree that the development of power concepts has enhanced modules by providing a more in depth method of explaining key concepts to students.

Faculty continue to meet, discuss what's working and what's not in order to improve, stay current and make adjustments as needed. The program has good lab space with great equipment providing a good structural basis for the program, however, one college leader indicated that it is his hope that faculty and staff don't stop now and that they continue to work on making improvements so that it reaches a "world class" status.

5. *Integration of curriculum and method of delivery across all three colleges*

Starting with the fall term, all Engineering Technology classes will be taught in the modular format using the same curriculum. Winkles have been worked out, faculty are prepared and evening classes have been added for students. One of the college leaders likened the model in terms of "virtually delivering all of your classes all of the time, all day and all night" which can seem initially daunting. As the program moves forward, students that started with the original format will have completed their program and moved on and all new incoming students will be offered courses using the online/hybrid modules approach. Students seem to like the modular format and the added flexibility of coming in at night to work on their modules. Some faculty continue to struggle with the need to work as a team (i.e., helping each other out) in a shared lab space. However, as the program moves forward, it is expected that both students and faculty will continue to get comfortable with the integration of curriculum and same method of delivery across all three colleges.

6. *Industry support*

College leaders indicated that they have great partnerships with employers/industry in the region. Industry partners have been great supporters of EICC and the PETC program. Strengthening of the connections provides advantages not only to students and placement of students but to EICC as a whole as well as advantages for the partner. Partners help EICC by sitting on sector boards and/or advisory committees, by either donating equipment or by providing advice on the purchase of equipment, and providing tours of their plants for students and these partnerships increase the EICC PETC program's credibility across the state. In turn, students completing the PETC program help by filling gaps in the industry.

Industry partners are desperate for skilled trade people and PETC students match their needs. In addition, Industry partners often send their employees for training specifically developed for them or have their employees take part in apprenticeship programs.

In the following section, college leaders were asked to describe students likely to avail themselves of the articulation/transfer agreements, student and faculty acceptance of the modular delivery method, and to describe ways that the PETC program may have impacted their community colleges. College leaders were not asked to rate any of the following areas.

7. *Describe the students who will most likely take advantage of articulation/transfer agreement with UNI, UI, WIU, and St. Ambrose.*

The students that would most likely take advantage of articulation/transfer agreement are those of a traditional age and most likely to be able to relocate, representing a small percentage of students in the program. In contrast, students in the program tend to be older males, some females, that have families and less likely to want to relocate. The Engineering Technology degree is the terminal degree for most of the students in the program.

8. *Describe your faculty and your students' acceptance of the modular instructional method.*

Overall, students have been accepting of the new modular format. However, the process needs to be explained to students prior to starting classes. The Blong Technology Center is currently in the process of developing an online orientation that describes the modular system and how to access it. Students do appreciate the flexibility that the modular instructional method provides. One college leader indicated that while they had expected some push back from students that switched from a traditional to a modular-based setting, they in fact received positive classroom evaluations. The level of support received in the classroom is likely the reason that none of the students indicated that they did not like the delivery method in their classroom evaluation. Feedback from the career navigator has also been good, students are more likely to complain more about the instructor than they are about the delivery method. An interesting observation made by college leaders is that the traditional students are more likely to be savvy with the computer equipment, while the non-traditional students are more likely to be savvy with the lab equipment. As far as faculty goes, there has been some pushback from select faculty but as previously indicated, they are expected to be on board in the upcoming term. As current faculty retire and new faculty are hired the acceptance of the program will continue to grow and expand.

9. *In what ways will this program and collaborating program (consistent across all colleges) eventually impact your college and/or district?*

The program allows EICC to strengthen its partnerships with regional industry and business partners. The partnerships tend to be reciprocal in nature. For example, EICC is able to structure their courses in ways that meet industry standards and help students develop the skills needed to get a job in the area and in turn, industry partners are able to recruit qualified students to fill gaps in their workforce. It is notable in this particular region given that the current workforce is more to be at retirement age. The program has also allowed EICC to

purchase/upgrade some equipment so that students have access to the type of equipment that they find in industry.

There is now greater collaboration between faculty as a result of the PETC program and the change made to the modular delivery method. The method has had a positive impact on the colleges and the students. EICC PETC's capacity to enroll more students given that it is online and does not require students to be present on campus has increased. Students have greater flexibility and access with availability of a lab supported by a faculty member between 8:00 am and 9:00 pm. The modular approach has been successful and will likely be expanded into other areas (e.g., the IT program) in the near future.

INTERVIEW REPORT: FACULTY

The following is a summary of the interviews conducted with the Engineering Technology faculty. A total of five faculty members took part in these interviews. Each faculty member indicated that they teach multiple classes for the EICC PETC program.

It should be noted that interviews were conducted with faculty the previous year, however, at that time, classrooms/modular courses had not yet been implemented at each of the colleges. While we tried to be consistent with the questions, there were slight variations dependent on where each community college was in the process of implementing the modular delivery system.

Classroom Organization and Setup.

In general, labs are available for students to drop in during the day and some evenings to work on their classwork/modules. A faculty member is available in the labs to facilitate the process and provide assistance and mentoring to students working on their self-paced modules. The current format also provides opportunities for one-on-one or small group work as needed. The basic elements of the classroom are the very similar across campuses, however, the setup or configuration may vary somewhat. At one campus, there may be a computer lab so that students can access all of the online modules and a separate room for the lab that contains all of the equipment. At another campus, every station has a computer where the majority of work is done. Only in the second year, do students need to move to the larger lab to access the equipment.

One faculty member that works on two campuses reports that there have been some challenges related to not having the exact same equipment at the two. While the concepts and materials are the same, there is a need to adapt based on the equipment at a given campus. Students wishing to complete their work at different campuses may also face the challenge of having to adapt to changes in equipment.

Preparation/Changes Made for August Program Implementation.

Prior to the implementation of the program, faculty felt that they were in "control" of their classes, and as the EICC PETC program moved towards development and implementation of a curriculum to be used across campuses some faculty indicated that they experienced a loss of control. In particular, this has presented somewhat of a challenge because equipment can differ

between campuses. The adjustment to an online system is also challenging because it is a new experience for some faculty members. There is hope that once faculty grow accustomed to the new delivery method that it should be okay.

Preparation includes participating in some training sessions on the use of specific equipment and use of the online portion of the courses. Preparation has taken quite a bit of time and faculty wished they had more. One faculty member indicated that he tries to run through each class before teaching it, he makes sure everything that needs to be covered is, he goes through the modular tests, and he is very familiar with the textbooks and is able to point out where in the book students can find answers to their questions.

One faculty member voiced his dissatisfaction with the process and indicated that he is not required to implement the modular delivery system given that it is not included in his contract. While other faculty members indicated that the change was challenging, they remained optimistic and indicated that it was only a matter of time. One faculty member indicated that he thought the change was very similar to what employees would experience working in the industry field. Employees need to be ready for changes and have the ability to adapt to them.

Faculty Contribution in Development of the Curriculum and Power Concepts

The faculty have contributed to and provided input in the development of the curriculum, courses, and power concepts developed for the program. It has taken lots of work to bring all of the ideas and competencies together in developing the current curriculum. There is still lots of work that needs to be accomplished and they continue to add classes (approximately two classes every 16 weeks) to the program. Although they have a common curriculum, faculty continue to have some flexibility about how to approach the modules or labs.

Faculty has worked with Lucid Way to develop and integrate “Power Concepts” into the curriculum and modular courses. Each course has a key topic that is to be covered in a very short three- to four-minute video animation that students can use should they want further explanation. Not all of the modules/power concepts have been completed, however, the process of creating the modules is getting easier and the modules are getting better. Students have begun to use the power concepts and have indicated that they thought the Power Concepts were useful. The program provides students with different options for learning, they have the choice of working on a particular area themselves or they can ask for help from the instructor in charge of the lab.

Lessons Learned: What is Going Well or Not So Well?

Faculty identified several lessons learned about recruiting students, some challenges with offering a self-paced modular instructional program, and challenges related to creating a program that is equitable across campuses. These lessons are described below.

- EICC could potentially recruit students that are attracted to local for-profit programs. In our interviews, faculty indicated that they thought that the EICC PETC program was better at training and preparing students to meet industry needs as the EICC PETC program than some of their competitors. A suggestion was made by a faculty member

that perhaps EICC can do a better job at recruiting and attracting these students, particularly for the PETC program.

- The ability to offer the same classes every term gives students more flexibility in completing their program, but the modular delivery method may not work well for some students. In particular, students that need a structured environment with an instructor telling them what they need to do may have a difficult time. Faculty recognize that this may be a challenge and have tried to ensure that students make continuous progress and will provide one-on-one instruction if needed.
- The self-paced nature of the modular delivery program has had an unexpected outcome with students waiting until the last minute to complete and submit their assignments and take tests. This makes it difficult for faculty to review students' work, test scores, and submit grades in a timely manner. Faculty are now considering adding or imbedding due dates or some other method of ensuring that students are making progress throughout the eight week course and discourage waiting until the last minute.
- One faculty member reported that classes aren't available five days per week at each of the colleges and that a couple of the campuses only provide access two days per week because they don't have an instructor present. Faculty have also indicated the need for having more instructors available. Both of these challenges create a disadvantage to students with the limited access. It is not known whether faculty will get hired to cover the lab on additional days or evenings.

Faculty and Student Adjustments to the Modular Instructional Method.

Faculty may just need time to adjust to all of the changes (e.g., in content, curriculum, loss of some autonomy, working on multiple classes at any one time) and move forward. The need for adjustment varies across colleges and across faculty. However, the overall program is in good shape and the equipment for the program is starting to come in allowing the adjustments to be made in a timely manner.

How well students adjust to the self-paced modular system is related to previous experience with self-pace programming and the level of structure needed by students to progress. Students not familiar with the process have more difficulty with time management, planning, and waiting until the last minute to complete their labs. Faculty are aware that students may be challenged by the change in the delivery method and have attempted to address these challenges.

Ensuring That The EICC PETC Continues to be a Top Quality Program.

Faculty want to be proactive and continue to meet on a regular basis to discuss the program or feedback from industry partners to ensure that their students are receiving a top notch program that meets industry standards and needs. They rely on each other's expertise to develop specific aspects of the courses and stay up-to-day in industry standards. For example, an engineering tech work group was held on February 20, 2015 for the purpose of discussing the program, progress made, challenges, and any grievances that faculty may hold. Some faculty thought it useful and some did not. Faculty were able to discuss issues related to work study, the small lab space

currently available at Muscatine, growing pains and trying to get everyone on the same page. Faculty identified a couple of pros and cons of having these meetings, they like meeting to discuss the program but do not like that they have to shut down the facilities while they're away and limiting student access during that time.



Appendix D:

Deans/Director/PI, Faculty, and Career Navigator Interviews: Spring 2016

METHODOLOGY

Participants

Interviews with Deans/Directors/PI, instructors, and career navigators of EICC's PETC program were conducted in on March 29, 2016 (Fiscal Year 4, Quarter 2). The following report describes a summary of these interviews. Personnel that participated in the interviews are identified in Table 1 below.

Table 1
EICC Personnel Participating in Implementation Evaluation Interviews

Name	Title	College/Site
Ron Serpliss	Dean of College	Clinton Community College
Dan Marvin	Director	Blong Technology Center
Jeremy Pickard	Dean of Instruction	Muscatine Community College
Wayne Merrell	Assistant Director, DOL Grants	Eastern Iowa Community Colleges
Ben Kettering	Instructor	Blong Technology Center
Art Kistler	Instructor	Muscatine Community College
Dave Wallace	Instructor	Clinton Community College
Steve R. Harfst	Instructor	Muscatine Community College/ Clinton Community College
Katie Watson	Career Navigator	Eastern Iowa Community College
Janice Dolan	Career Navigator	Eastern Iowa Community College

Methods

Deans/Directors/PI. College Leaders were interviewed about the EICC PETC program regarding their thoughts and perceptions about the implementation of the PETC program on their campuses. Leaders were asked about recruiting of students, marketing activities, their perceptions about the willingness of faculty to fully implement the PETC program, curriculum development, industry support and their thoughts about the acceptance of the modular instructional methods by students. College Leaders were asked about their perceptions of the overall success of the program and to share their thoughts regarding sustainability of the program.

Faculty. The faculty were asked a series of questions regarding their role in the Engineering Technology (ET) program, their classroom setup and preparations, their role in development of the curriculum, lessons learned, thoughts about the implementation of the modular instructional methods, about students' adjustment/reaction to the modules, thoughts about ensuring that the program is top quality and sustainability.

Career Navigators. The career navigators were asked to describe their responsibilities/duties as a career navigator, whether their role was affected by the move to an online delivery method, their involvement in recruiting students, strengths and challenges, and overall lessons learned.

Implementation Analysis Research Question

College leaders' and faculty's interview responses partially answer the following TAACCCT grant required research question.

- “How were programs and program design improved or expanded using grant funds?”

In the following report, college leaders discuss the implementation of eight-week terms in the PETC program, curriculum development, development of power concepts and the integration of the curriculum and the method of delivery across each EICC campuses. College leaders describe how the change to the eight-week program has impacted their community college, their students and faculty and their efforts to market the program to the community. Faculty describe their role in the development and implementation of the curriculum, their adjustment to the changes, and how it has affected them and their students. The Career Navigators describe their role in recruiting and retaining student in the program, the strengths and challenges faced by career navigators and lessons learned from their involvement in the program.

INTERVIEW REPORT: COLLEGE LEADERSHIP

The following describes the results of the interviews conducted with the EICC PETC college and project leadership on March 29, 2016 by RISE personnel. College leadership were asked to rate each of the following implementation areas on a scale of 1-10 (with 1 being poor and 10 being excellent) followed by an explanation of their rating (see Table 2 for a summary of their ratings).

On a scale of 1-10 (1 being poor and 10 being excellent) how would you rate the following so far?

Table 2.

Summary of EICC Leadership Ratings of Implementation Areas

	Ron Serpliss	Dan Marvin	Jeremy Pickard	Wayne Merrell	Mean Rating
1. Success in attracting students, including displaced workers and providing appropriate support	7.5	8	8	7.5	7.8
2. Efforts to market the program to the community	7.5	8	7	10	8.1
3. Willingness of the faculty to fully implement the modular instructional method	8	10	8	6	8
4. Curriculum development and continuous quality improvement	7.5	7	6.5	9	7.5
5. Integration of curriculum and method of delivery across all three colleges	8	7	7	7	7.3
6. Industry support	9.5	8	8	8	8.4
7. Overall success of the project	9	7.5	8	10	8.6

1. Success in attracting students, including displaced workers and providing appropriate support

Based on interviews with EICC PETC college and program leaders, the program has been successful in attracting and recruiting students. One college leader, in particular, noted that they have very likely increased the number of students in their program by approximately 300%. The majority of students recruited are individuals that are more likely to be employed, less likely to have any disabilities, do not have a history of being chronically unemployed and not likely to be a TAA workers. It should be noted that at the time of the interviews there were only about 29 TAA workers within the entire district and almost all of them were either in the process of finding or have already found employment.

Much of the success in recruiting students is due to the work that Katie Watson has accomplished in her role as Career Navigator. She's been so successful at making connections with industry, schools, and students that college leaders want her to keep growing and working in this area as college leaders would like to continue to increase the number of students enrolling into the program beyond the end of the grant on September 30, 2016.

2. Efforts to market the program to the community

College leaders all agree that efforts to market the program have gone very well. To that end, a three-year marketing strategic plan was developed by the Wayne Merrell, Program Director and marketing directors Karen Farley and Allen Campbell. The plan helped to identify the best ways to market the program over the course of the grant period. The career navigator is also very involved in marketing efforts on behalf of the EICC PETC program. The success is evident in the number of new students that enroll every term. It was noted by one college leader that he would like to see a better connection between the district marketing team and what career navigators do, hear and see while out in the community.

New marketing pieces (e.g., brochures) were created, the website was updated to reflect the updated Engineering Technology program and partnerships have been made in the community leaders, schools, and employers. The challenge has been ensuring that students and industry partners receive program information thereby increasing awareness throughout the area.

3. Willingness of the faculty to fully implement the modular instructional method

Ratings of willingness to fully implement the modular instructional method by college leaders ranged from six to ten with an average rating of eight. Rating faculty willingness was difficult because while instructors at two (Blong, Clinton) of the colleges have fully implemented the modular instructional method, instructors at Muscatine have resisted its implementation. The instructors at Blong and Clinton have worked hard to implement and have done a great job. At Muscatine, there is one instructor in particular that has been verbal about his resistance causing other instructors at that college to resist implementation as well.

4. Curriculum development and continuous quality improvement

College leaders overall felt that curriculum development has gone very well and that they are on the right track. The focus has shifted from development to improvement now that it has been in use for several terms. The program has convened committees to identify, prioritize and resolves issues as needed. College leaders indicated that are some aspects of the curriculum that do not work for students and some pieces that need to be added in order to better prepare students for work in the engineering technology field. Curriculum for the program has become institutionalized which facilitates making changes in order to continue to be relevant in the industry while continuing to benefit students as well.

5. *Integration of curriculum and method of delivery across all three colleges*

Implementation of a curriculum and method of delivery across all three colleges is probably at 80%. There is still some work to do and it is mostly due to the one instructor that has been resistant to the method of delivery and would rather lecture in a traditional class setting. This variation would likely cause students wanting to go between colleges to become frustrated. The remaining colleges have fully integrated the curriculum and modules and use the Blong model for their delivery method. Equipment between colleges varies somewhat and adjustments need to be made to accommodate the differences. Instructors were also allowed to choose their own textbooks as long as they met the criteria set in the revised/updated curriculum.

6. *Industry support*

Overall, industry partners fully support the new Engineering Technology program at EICC. Industry partners are very willing to help the program as needed (e.g., tours, guest speakers). Partners have also been great with placement; to date they've had 100% placement of their students. A student that recently completed the program found a job with a starting pay of \$100,000. The majority of partners are supportive of the updated curriculum and very unlikely to want the program to revert to the old curriculum. EICC is working hard to engage their industry partners to help them understand/accept the revised curriculum and textbooks used.

7. *Overall success of the project*

College and project leaders report that the project has been successful overall. They developed a curriculum that is accepted and can be used worldwide and it identifies the most difficult concepts and have come up with ways to teach them so that are understandable. The PETC program received a Leaders of Innovation award at the Manufacturing Leadership Award Ceremony, making it the only educational institution that has ever been invited or gotten an award from this group with members such as DOW Chemical, Boeing, and Toyota.

All of the open coursework and educational resources for instructors and students developed for the program are available on <http://engineertech.org>. According to the project director, they have received feedback that other community colleges and high schools in the state are using these resources.

It is evident that students like the format of the program as EICC has experienced a 300% increase in the number of students enrolled. The majority of students seem to really like the modular instructional method because of its flexibility and ability to fit their needs. In contrast, there is a very small percentage (10-15%) of students who continue to prefer the lecture style of teaching. They tend to prefer a very structured class with very specific timelines and requirements and therefore, dislike the self-paced modular instructional method.

8. *In what ways will this program and collaborating program (consistent across all colleges) eventually impact your college and/or district?*

The modular method of instruction has been successful within a large group and across two campuses. It is likely that the format will also be incorporated in other similar programs given its success. Whether the online, hybrid format can be expanded into EICC's general education or liberal arts courses remains to be seen. Consideration of using this delivery method in other areas may be explored if use of the format continues to succeed in recruiting and retaining students, bringing revenue to the colleges, and continues to strengthen partnerships with the employers/industry.

9. *What's in place or intended to be in place to institutionalize or sustain this program?*

Committee members, convened to explore ways to ensure that the current program is institutionalized, are confident that the self-paced modular delivery method (i.e., Blong Model) will continue to be used. College leaders also concur that the program will be sustained and have begun groundwork to make that happen. In particular, they will continue to sustain the modular format, provide apprenticeships, and will continue to use the power concepts developed with grant funding. College leaders are optimistic that the implementation of the program is a stepping stone that they will continue to build upon.

10. *What won't be supported as you move out of this program?*

Although funding for the career navigator will end when the grant ends in September 2016, EICC is committed to keep Katie Watson. Her position as career navigator will be eliminated and her "new" role will differ somewhat in that she will be based at Muscatine and no longer go out to Clinton. It is unclear whether Katie will continue her intensive work with the engineering program as she had under the grant and whether not having this type of intensive work will have an impact on marketing, and recruitment and retention of students. In addition, the position of grant director will be eliminated once the grant ends.

INTERVIEW REPORT: FACULTY

The following is a summary of our findings from the interviews conducted with the Engineering Technology faculty on March 29, 2016. Four EICC PETC instructors were interviewed regarding their classrooms/labs/equipment, professional development, development of curriculum, and they were asked to share their thoughts regarding students' perceptions of the program and to share any lessons learned throughout the implementation process. Each instructor interviewed works with students, facilitates the engineering technology classes and works directly with companies to set-up and provide non-credit training for employees of these companies.

It should be noted that one faculty member involved in the program continues to resist implementation of the program at his college and the majority of his responses to interview questions are about his overall displeasure in the changes from a traditional method of delivery to the online hybrid method. All of the other instructors appear to be on board with the changes and have moved on to ensuring that the program is successful.

Classroom/Lab/Equipment Set Up

There are still some challenges with the model, for example faculty are working together to revise course requirements in order to ensure that students make progress in a timely manner rather than waiting until the last minute to complete and submit their assignments. Faculty have also implemented a rule that once the final exam has been completed/submitted all coursework is also complete in order to prevent students from going back to submit/change assignments.

The format of the curriculum and course delivery method requires all equipment to be in service and available to students at all times which can present a challenge for the college and instructors should it go down for some reason. While equipment across colleges is similar, there is enough variation that it may frustrate students should they want to travel between campuses to complete their work. Not all instructors believe that the variation in equipment is a problem as they have the freedom to design their labs in ways that work best for the equipment while using the same competencies.

The faculty are continuing their professional development by attending workshops, classes, internships, and training to use various pieces of equipment as needed.

Curriculum Development and Online Modules

All of the instructors were involved in the overall discussion and development of the curriculum, writing specific sections. Each instructor was responsible for writing/developing specific sections based on his specific strengths and expertise in the given area. They also established a common EICCD Course Development Model (CDM) for every credit course describing learning goals and outcomes, prerequisites, method of instruction, topic outlines, assessment and competencies.

The power concepts developed for the program are good resources for students that may need supplemental help in understanding specific aspects of the program content. Some students are more visual whereas other students may prefer to read, the concepts are available for students with different needs. They are quite an improvement from the dated VHS videos previously available, the updated power concepts are short (five to seven minutes long) in length, exact and straight to the point. Students that avail themselves to them seem to like them.

Adjustments to fully implement the modular instructional methods

Students that need more structure and some recent high school graduates have been challenged by the self-paced, online environment. There is somewhat of a learning curve to make the adjustment. Faculty are in the process of making adjusts to the schedule to ensure that students aren't trying to complete all of the modules during the final week of the term. In particular, faculty would like to impose changes that prevent students from moving onto the next module without completing the module they are currently working on. This may include establishing deadlines and monitoring students' progress more closely.

In general, however, students like the flexibility, enjoy that they only need to spend approximately eight hours per week working on their labs. It is this flexibility that faculty believe

have led to the program's success. This was evident when a group of students went from one campus not offering the modular system to one that was.

What are the major lessons learned so far?

Building partnerships and developing a rapport is very important to instructors in the program for several reasons. Instructors like to connect with current as well as potential industry partners, raise awareness of the program, recruit partners for advisory committees, find out what the needs are of the program, and help with student placement. A result of these connections is an increase in the number of students sent by employers to take part in courses.

Finding qualified instructors has been a challenge for the program. It is difficult for EICC to compete in terms of pay. Individuals are more likely to earn twice as much in an industry setting than they are at EICC. Industry has such a high need for employees that they will recruit students before they complete their program.

What type of changes would you make based on what you've learned?

Faculty identified a few things that they would like to change based on what they've learned to date. First, faculty would like to have all engineering technology students attend an orientation that describes the program and the self-paced and flexible nature of the modules rather than having students come into the lab on a one-to-one basis. The information they receive would be consistent and would allow them to start working on the modules right away. Second, some faculty indicated that they would like to add some of the basic hand tools instruction that was removed in the updated curriculum and third, faculty would like to offer the advanced courses every other term so that faculty can focus more on the courses and reduce the overall management of them.

Faculty members also reported the difficulty they have experienced as a result of having fellow faculty that have not been supportive of the new program and have resisted the changes. A suggestion made by faculty was that it may have been better to create the program from scratch allowing for more buy-in from the faculty.

Sustainability of the Program

One faculty member suggested that the program needs more instructors in order to sustain the program given that all instructors teach all of the courses simultaneously. In order to remain a top notch program, the modules must be constantly monitored and updated to reflect industry practices in real time. In order to remain a top notch program, faculty will need to maintain their industry connections, given more time to complete quality checks, and take part in professional development activities.

INTERVIEW REPORT: CAREER NAVIGATORS

The following is a summary of our findings from interviews conducted with Career Navigators working with the EICC PETC program.

Role and Responsibilities/Duties of the Career Navigator.

The career navigators at EICC work very hard in marketing the program, recruiting and retaining of students. They assist students by providing advice, keeping in constant contact with them, and by helping the students apply for certificates upon completion of their program. Career Navigators travel throughout the area on behalf of EICC to make connections with industry partners and local schools to increase awareness of the program. They engage in marketing activities by participating in employment fairs, collaborating with recruiters, serving on committees and other events as needed.

The role of the career navigator has grown with the move to online learning. As more and more students come through the program, career navigators are viewed as a constant presence in the lives of these students. The career navigator takes time to introduce herself to the students and maintains an open door for them.

Student/Advisor Ratio. The two EICC career navigators differ in their advisor to student ratio; one career navigator has a caseload of 86 credit students and the other has a caseload of 40 credit engineering technology students. The funding source differs somewhat between both positions and may impact the difference in caseloads between the two career navigators. The difference in funding sources also allows navigators time to advise other students (e.g., high school students, non-credit students, and continuing education students).

Recruiting/Retention Strategies. Both career navigators worked to increase awareness of the program by using word of mouth, speaking with students, describing the program and describing the types of careers in engineering technology available upon completion of the program, offering guided tours, and showing videos that provide visuals of what manufacturing looks like.

Career navigators thought that the ability to demonstrate what manufacturing actually looks like was wonderful given that a misconception that the field is “dirty” continues to exist. It was important to the career navigators to change the stereotype so they would often recruit industry personnel as role models to help dispel the misconception. This strategy was utilized throughout the entire grant period.

Career navigators voiced their concern that once the grant ended, funding for marketing and recruiting of the program would end and possibly having a negative impact on recruiting of students.

Career Navigator’s Impact on Improving Student Access and Completion

Strengths of a Career Navigator. The interaction between students and career navigators has led to improved student access, students know that they can call the career navigators should they have a problem, and ask for help and know that the career navigator can more than likely fix “it.” There is a sense of trust between students and career navigators that helps students “stick

around.” The career navigators call, email, and talk to the students to make sure everything is going okay and to determine whether students need any assistance. Career navigators also worked with instructors to identify students that may not be coming to class or may be in need of assistance. Career navigators also work together to make sure students get the help they need. To that end, they created an online SharePoint file for the purpose of sharing information on students across campuses.

Challenges of a Career Navigator. Holding students, that come and go as they please, accountable was a challenge for career navigators. They had to figure out a way to keep students on the right track while helping them get through the program. Because of the intensive nature of the job, constantly in contact with students, career navigators felt that they often did not have time to complete all that needed to be completed.

Lessons Learned

Career navigators provided several lessons learned in their role as career navigators:

- Career navigators would have liked to have more time to engage in other activities (e.g., marketing, visiting industry partners) and not just engage in advising.
- Career Navigators need additional help to adequately advise students.
- It would help to have a content expert speak to students rather than having the career navigators describe the program to students.
- There is also a need to ensure that qualified people run the labs in the absence of instructors.

Sustainability of the Career Navigator

Whether the position of the career navigator remains the same is dependent on the source of funding. The career navigator working in the PACE program will more than likely not see any changes in her job and will more than likely absorb advising of PETC students on more than one campus.

At the time of the interview, Katie was not clear about what would happen to her role as Career Navigator. She will more than likely be retained but her responsibilities will change.



Appendix E:

Career Navigator and Marketing Interviews: Fall 2014

METHODOLOGY

The interviews of the Career Navigator and Marketing Coordinator of EICC's PETC program were conducted in the Fiscal Year 2, Quarter 4. The Career Navigator interview took place on September 17, 2014 and the Marketing Coordinator interview took place on August 27, 2014.

Career Navigator

The Career Navigator was asked a series of questions regarding recruitment practices (e.g. successes and challenges of the recruitment process), advising and her role in the PETC program. The Career Navigator was asked to describe how her role as a Career Navigator differed from that of a regular advisor and whether that role was affected when EICC switched from semester terms to eight-week terms. She was also asked to describe any activities related to marketing and business partners that she engages in. In addition, the Career Navigator was asked about lessons learned so far, whether there were any aspects of her role she would like to see changed, and about sustainability of the program.

Marketing Coordinator

The Marketing Coordinator was asked a series of questions about marketing strategies used for the PETC program. In particular, the Marketing Coordinator was asked about whether marketing strategies have changed since each of the three individual community colleges switched from semester to eight-week terms. She was asked to indicate whether she thought the marketing campaign was successful and to describe how funding from the U.S. Dept. of Labor TAACCCT grant is being allocated. The Marketing Coordinator was also asked about the various target groups of the PETC program and whether she thought the target groups are being reached.

The Marketing Coordinator was also asked to describe her role and responsibilities as the PETC Marketing Coordinator and to describe how this role differed from her role as the Iowa Advanced Manufacturing Marketing Coordinator. In addition, she was also asked to describe what she sees as the next steps for the marketing campaign for the PETC program.

Implementation Analysis Research Questions

These interviews partially answer the following TAACCCT grant required research questions:

- “How were programs and program design improved or expanded using grant funds?”

This question is addressed by responses regarding the change to eight-week terms implemented by the PETC program to facilitate more flexibility for the student. This question is also addressed by responses regarding different marketing mediums and the effectiveness of the PETC marketing efforts.

- What contributions did each of the partners make towards program design, curriculum development, recruitment, training, placement, program management, leveraging resources, commitment to program sustainability?

Responses regarding employer involvement providing industry tours, presentations to current and prospective students, and attendance in and hosting of various career fairs for the PETC program participants.

INTERVIEW REPORT

This report details results of interviews conducted with the Career Navigator (September 17, 2014) and with the Marketing Coordinator (August 27, 2014) by RISE staff.

The following is a summary of the interview conducted with the Career Navigator.

Career Navigator

“We still have the myth that manufacturing is dirty and dark and dangerous, boring, tedious, hard on your body; stuff like that. They hear that primarily because so many people do work at the front end where it isn’t a skilled job, it’s a repetitive job. Helping them see that if you want to work for an industry, I’ll just use HON as an example, you could be in IT, you could be in mechanical design, you could be in logistics, you could be in engineering tech. The more skill you have the more different the day looks. If I’m troubleshooting and problem solving, I’m not standing at a machine just poking a button, I actually am using my brain and I’m figuring something out, and I get paid based on that skill-set. That’s really the challenge, is trying to break the myth that if you do this job your body’s going to fail and you’re not going to barely make a living. Unfortunately, that’s a global problem because everywhere I go the employers are saying the same thing, ‘We aren’t getting enough people in the door, we need help, we need more people hired.’ The myth isn’t just here, it’s everywhere.” – *Career Navigator for the PETC program.*

Tell me about your role in the Engineering Technology (PETC) program?

The Career Navigator for the PETC program provides a variety of services to current and prospective students. For current students, the Career Navigator is a retention specialist, making sure students attend class and when they don’t, trying to determine why they aren’t. The Career Navigator also sets up career explorations, job shadows, and industry tours. For prospective students, the Career Navigator plans events, such as potlucks, and talks to recruit prospective students into the PETC program.

How does this differ from the regular advisors?

The Career Navigator has the added role of retention specialist checking in with instructors to determine whether students are attending class or whether students are struggling in class. Identification of these students allows the Career Navigator to make early interventions as needed.

Has your role changed with the movement to online learning?

Because the term for online learning courses is much shorter (8 weeks), students can get behind quicker given the faster pace. Therefore, the Career Navigator has to intervene much earlier than needed for semester courses. Students in online courses are provided with timelines detailing when specific assignments are due facilitating assessment of progress made in a particular course.

How many students are currently in the PETC program?

There are 87 students in the PETC program according to the Career Navigator.

What is the advisor to student ratio?

In general, the Career Navigator interviewed advises between 60 and 70 students per term.

Tell me about the recruiting process.

High school and prospective students are given opportunities to tour local employers' facilities in order to familiarize them with the advanced manufacturing field. EICC utilizes a ladder approach in which students are shown that they do not require a lot of training to get better paying jobs and once hired, earn even more money with additional training. Students can "work [their] way into the full two year program, and every step on the ladder gets [them] a little more reward and a little higher pay."

What recruitment strategies do you use?

The Career Navigator interviewed has developed a network of contacts within the Muscatine area and is currently in the process of adding contacts from the Clinton area. Her background as well as her familiarity with local industry has helped her develop this network for recruiting purposes. Local industry partners are also very involved in the PETC program; offering tours of their facilities to large numbers of prospective students. The Career Navigator also sets up opportunities for students to talk to local industry about the possibilities that arise from working in a manufacturing or engineering field. However, the Career Navigator indicated that she needs "time" to build these relationships and make contacts in order for her to be successful as a Career Navigator.

How successful have your recruitment strategies been?

In general, the Career Navigator feels that recruitment strategies have been successful. She indicated that there are now more students in the PETC program and attributes the increase in number to the redesign of the curriculum, flexible scheduling allowances, and eight week terms. There has also been an increase in the number of students coming from the general student services track over previous terms.

What challenges do you face in recruiting students to the PETC program?

The persistence of the myth that manufacturing is dark, dirty, and boring continues to be a major challenge. It is no longer true especially given the training provided through the PETC program.

What else do you need to be successful in recruiting students to the PETC program?

The Career Navigator indicated that utilizing a statewide approach to marketing rather than a local approach would help with recruitment efforts. Local marketing focuses on promoting a particular school within a specific geographical region whereas the focus of a statewide approach is on promoting manufacturing overall.

Tell me about the advising process.

Students in the PETC program are assigned an academic advisor and a support service advisor (i.e., Career Navigator). These advisors work together to help the student navigate through the program and the community college and are ready to intervene should an issue arise or if the student misses too many classes. The advising model used in the PETC program is the same one used throughout EICC.

What kind of marketing activities are you engaged in?

The Career Navigator is involved with various aspects of marketing for the PETC program. She participates in brown bag lunches, manufacturing open houses, and potlucks. The potlucks are organized to get students in the door allowing administrators and the Career Navigator an opportunity to talk to the students about services available to them at EICC.

How have you engaged with business partners?

Business partners/local industry are an integral part of the PETC program. Business partners provide opportunities for students to tour their facilities, attend and host job fairs, and potentially hire people on the spot. Business partners also give presentations to both current and prospective students.

In what ways have career navigators improved student access and completion?

At the time of the interview, the first eight-week term was in progress. Because the term had not yet completed, the Career Navigator indicated that it would be difficult to determine whether she helped improve student access and/or completion. However, she reported that students are attending class and she believes that the real test will come when the second eight-week session begins; in particular, how many students are retained.

Talk about any lessons learned so far.

Students did not take advantage of the Career Navigator initially. However, she began introducing herself to students, inviting them to potlucks that she hosted. These activities made students much more receptive to the Career Navigator and they began to approach her.

Do you have any ideas regarding needed change?

Time is the biggest limiting factor for the Career Navigator at this point. She indicated that once registration for the next eight-week term begins, she will have a better idea of changes needed.

What are you (meaning this position) doing to help/make this PETC program sustainable?

The Career Navigator indicated that student tuition derived from retaining students will make the PETC program sustainable. As a Career Navigator, she is in a position to increase the number of students that are retained in the program leading to making the program sustainable. In addition, she reports that it is much easier to retain students than it is to recruit new students.

The following is a summary of the interview conducted with the Marketing Coordinator.

Marketing Coordinator

“I don’t think there are too many advertising strategies or media strategies, to be honest, that we haven’t tried. We reach out to other career fairs, so it could be sponsored by a local media. The Rock Island Arsenal has a career fair every year. They have them at the malls in the area, so we make sure that we’re out attending those type of events. We do career fairs, career exploration fairs, for high school students and for middle school students. We work through Junior Achievement to have manufacturing days, where they actually come out to our facilities, get to see what a career in manufacturing might be like. Some of its one-on-one. Some of its group. Some of its special events. Like I said, we have done direct mail, TV, radio, social media, online. Like I said, I think we’ve pretty much, if it’s out there to be done, from a media standpoint, we have done it to some degree.” –
Marketing Coordinator for the PETC program.

Tell me about your role in the Engineering Technology (PETC) program?

The Marketing Coordinator’s role in the PETC program includes a wide variety of activities such as participating in the Defining Conference held on November 7, 2013 and completing internal and external tasks related to the PETC program (e.g., printed pieces for the advisors and admissions coordinators to use for an internal approach; billboards and ads for an external approach). The Marketing Coordinator also has DACUM (Developing A Curriculum) training and has been a part of building the program from the ground up.

How long have you been with EICC?

The Marketing Coordinator for the PETC program was hired shortly after Wayne Merrell was hired as DOL Grant Coordinator at EICC in August, 2013.

What are your responsibilities as marketing coordinator?

In her role as marketing coordinator, some responsibilities include working on development of curricula, development of printed pieces and ads for the purpose of recruiting students, and working with local manufacturing firms to discuss what these firms need from their employees.

How does your role as PETC marketing coordinator relate to I-AM/other DOL projects?

The role of the PETC Marketing Coordinator differs from the role of the Iowa Advanced Manufacturing Marketing Coordinator due to differences in target audiences and grant requirements. While both grants specify how the money is to be spent by the program, EICC has used its own funds to promote the PETC and I-AM programs to audiences outside the constraints of the grant.

What marketing strategies are you using?

Several marketing strategies are utilized in recruitment efforts. One strategy is to provide opportunities for prospective students to experience EICC first hand. This is accomplished in several ways, for example, EICC often hosts “information nights” on campus allowing prospective students to meet and talk with career navigators and faculty and to tour facilities and the labs. EICC has also hosted manufacturing career fairs open to all including current and former students and anyone interested in learning more about manufacturing careers. Several open houses have been held at the Blong Technology Center, the Maquoketa facility, and at the manufacturing center.

In an effort to reach the largest possible audience in promoting both the PETC and I-AM programs, EICC has also advertised through radio and television commercials and social media (e.g., Twitter, Facebook, Google Ads, Pandora, and Newspapers).

EICC has also developed several advertising handouts that are sent to prospective students. These handouts include one-pagers (listing facts), curriculum sheets, and charts and graphs that describe Engineering Technology.

How far out does your marketing reach?

Marketing efforts reach into the four counties throughout the EICC district: Clinton, Muscatine, Scott, and Jackson. Marketing efforts also reaches into Illinois including Rock Island and Whiteside counties.

What are the target groups and are you reaching those target groups?

Marketing efforts have targeted under-employed, unemployed, and individuals that have been laid-off. There has been an increase in the number of people interested in both the PETC and Advanced Manufacturing programs suggesting that marketing efforts have been successful:

“[the increase] has to be, because, quite frankly, I’m not sure where else it would come from. There’s been a lot of focus on rebuilding [the] manufacturing base [in our community]. So whether that’s been economic development folks or whether that’s been the local media or whether that’s been the Chamber of Commerce

talking about these types of things, whether that's been those big businesses themselves, saying, hey, we're retooling, we're rebuilding, manufacturing is back."

What is your involvement in student events (such as job fairs, brown bags, etc.)?

The Marketing Coordinator is responsible for the vast majority of media planning and writing required for student events (e.g., job fairs, brown bags) and for coordinating these events along with career navigators, grant coordinator, and faculty members.

How has the marketing changed now that the courses are online with a faculty facilitator?

Marketing for an eight-week term is not new to the Marketing Coordinator since several classes, including the classes for CNC, welding, and the PETC classes at the Blong Technology Center, were already on the eight-week schedule. The major difference between marketing for eight-week and semester terms is that the shorter term requires marketing efforts to be conducted at a faster pace.

How do you define/know if your marketing efforts are successful (an increase in student awareness, enrollment, etc. – due to the marketing efforts)?

EICC's marketing coordinators used various methods to determine whether marketing strategies used are successful. These include looking at click-throughs, social media activities (i.e., re-tweets, likes, shares), Google Analytics, and the inquiry form posted on EICC's website. Using these methods, they have found a noticeable increase in enrollment numbers, inquiries, and prospective students visiting the campus after marketing of the PETC program was implemented.

How do others at EICC define successful marketing efforts?

Others at EICC, including the College Leadership, define successful marketing efforts through a variety of avenues. College Leadership and others look at the number of students enrolling and completing programs, employment following graduation, and how people outside of EICC view/brand the community college. The College Leadership is also interested in company involvement or how the local companies perceive EICC.

How are the marketing funds being allocated?

Marketing funds have gone towards printing (one pagers, brochures), advertising (e.g., television, radio, social media, online ads), billboards, events (e.g., career fairs), and the display items for the events.

What do you see as the next steps with the marketing plan?

The next steps include developing a better sense of the best prospects for students, making sure the marketing plan is sustainable, and that the marketing plan will continue to help the PETC program grow.



Appendix F:

Student Survey Evaluation Report: Fall 2015

METHODOLOGY

A student survey to assess students' experiences in the PETC program was developed and distributed to students enrolled in the PETC program. A total of 47 students responded to the survey by the end of November 2015. The student survey remained open until Spring, 2016.

Students were asked about their reasons for enrolling at Eastern Iowa Community Colleges (EICC) and about their educational and career goals. Students were asked about how they heard about EICC, their current employment status, why they enrolled at EICC, and why they chose engineering technology as a degree program. Students were also asked about their educational and career goals and they were asked to indicate whether they had been in another program at EICC prior to Engineering Technology. Students indicating that they had been in another EICC program were asked to compare the programs on the difference between delivery method (e.g., blended versus traditional classrooms).

Students were asked questions about their Engineering Technology navigator. In particular, students were asked to rate their navigators' knowledge about program requirements, helpfulness, friendliness, accessibility, and how often they met with the navigators. Students were also asked whether they had an individual success plan and whether they found it useful.

Students were asked to rate the helpfulness of the Engineering Technology classes and to rate their instructors on friendliness, helpfulness, and knowledge of the subject matter. Students were asked about the number of hours they spend each week on an EICC campus and whether they had dropped any classes.

Students were also asked about online modules offered by the program. They were asked to indicate the primary delivery method for courses taken, where they access the online modules, and whether they had any problems connecting to the online modules while on campus. Students were also asked to explain their preferred delivery method and the ease of accessing the online modules.

Students were asked if they had viewed any of the power concept tutorials. Students that had viewed the power concept tutorials were asked to rate the usefulness of the tutorials. Students were asked how they felt about the self-paced modular courses and how EICC could help them adjust to the self-paced modular courses.

Students were asked about their engagement at EICC. Students were asked to provide the names of the clubs/events they participated in. Respondents were asked to rate their class attendance as well as provide reasons for not attending their classes. Students were asked to rate resources provided by EICC as well and if they had access to everything they needed in order to learn. Students were asked to rate their satisfaction with the quality of the program and academic advising, the number of job opportunities, and the availability of internships. Students were also asked to rate their educational experiences in the program.

Students were asked to provide some demographic information including their first name, last name, and email address. Students were also asked to indicate which Engineering Technology focus area they are in.

Implementation Analysis Research Questions

Responses to the student completers' survey partly answer two of the TAACCCT grant required research questions:

- “How were programs and program design improved or expanded using grant funds?”
- “Did the grantees conduct an in-depth assessment of participants' abilities, skills, and interests to select participants into the grant program?”

In particular, the responses regarding support services provided to students by advisors/career navigators and delivery of coursework help understand the program's effect on career guidance and choice.

RESULTS

Enrollment/Goals. Respondents were asked about how they heard about Eastern Iowa Community Colleges (EICC). Approximately one third (31.8%) of respondents indicated they had heard about it from a family member, 29.5% indicated that they had previously taken classes at EICC, 22.7% indicated they heard about EICC through their employer/work, 15.9% heard about the program through a friend and 13.6% heard about it on social media (see Table 1).

Almost half (47.7%) of the respondents indicated they were unemployed, 27.3% indicated they were employed full-time and the remaining 25.0% indicated that they worked on a part-time basis (see Table 2). When asked why they enrolled at EICC, the majority (65.9%) of respondents indicated they enrolled at EICC because it was close to home, 43.2% indicated it was a cost savings measure, 36.4% liked the relationship EICC has with business/industry, and 22.7% enrolled because they had taken classes at EICC in the past (see Table 3). Half (50.0%) of the respondents indicated that it had been five or more years since they were last in school, 20.5% indicated they were last in school less than one year ago and the remainder indicated that it has been two to four years since they were last enrolled in school (see Table 4).

When asked why they chose Engineering Technology as a degree program, approximately half (54.5%) of respondents indicated it was due to wanting to work in the Engineering Technology field, 52.3% indicated they were interested in Engineering Technology, and 43.2% indicated that they wanted to strengthen their skills in Engineering Technology (see Table 5). Approximately two-thirds (67.4%) of the respondents indicated their current educational goal is to complete AA/AS degree (see Table 6). Just over half (55.8%) of the respondents indicated their current career goal is to get a job in the Engineering Technology field and 23.3% indicated that their goal was to get a promotion and/or increase their salary/wages at their current job (see Table 7).

Almost sixty percent of the respondents indicated they were mostly at Muscatine Community College, 23.8% reported that they were mostly at the Blong Technology Center and the remaining students were either mostly at Clinton or Scott Community College campuses (see Table 8). When asked if they were in a different program prior to being in engineering technology, 83.3% of the respondents indicated they were not and the remainder (16.7%) indicated they had been in another program (see Table 9). Among respondents that indicated that they had been in a different program, 71.4% indicated that the blended courses in the Engineering Technology program are more convenient than traditional lecture/lab courses (see Table 10).

Advising/Registration. The majority of students (76.2%) indicated that they knew who their adviser was and the remaining 23.8% did not (see Table 11). Respondents were asked specific questions about their navigators. Almost all (96.8%) indicated their navigator was friendly, 93.6% indicated their navigator was helpful, 90.3% indicated their navigator was knowledgeable about program requirements, 90.4% indicated their navigator was available, 93.6% indicated

their navigator was accessible, and 87.1% indicated their navigator provided assistance (see Table 12).

Almost half (46.9%) of the respondents indicated they met with their navigator once per semester and 31.3% indicated they met with their navigator monthly (see Table 13). Almost half (43.8%) indicated their meetings with their navigators lasted between 16 and 30 minutes, 28.1% indicated their meetings lasted between 0 and 15 minutes, 12.5% meet with their navigators for 31-45 minutes per meeting, and 12.5% indicated that they have not met with a navigator (see Table 14).

Almost half (45.2%) of the students indicated they had an individual success plan (see Table 15) and 89.5% of those students indicated that they found the individual success plan to be fairly or very useful (see Table 16). Among students that thought the individual success plans were useful it was because it helped them set goals and helped the student stay on task (see Table 17). A couple of students reported that the plans were not useful because they were taking classes through work and because they already knew which classes they needed to take (see Table 18).

Classes. Overall, the respondents indicated the courses needed for the Engineering Technology program are fairly helpful or very helpful. A few respondents indicated that some specific classes were not at all helpful (see Table 19). Students were asked specific questions about their instructors (see Table 20). Overall, 94.7% of respondents indicated their instructors were friendly, 89.5% thought their instructors were helpful and provided guidance as needed, 86.8% thought their instructors were knowledgeable about subject matter and were accessible, and 84.2% thought their instructors are available or accessible. Approximately one-quarter (28.9%) of the respondents indicated they spend between four and six hours on campus attending classes, another one-quarter (26.3%) spent between ten and 12 hours on campus attending classes, 15.8% indicated that they spent between one and three hours on campus, and 10.5% indicated that they spent seven to nine hours on campus (see Table 21).

Students were asked to indicate whether they had dropped any classes after a term had started. The majority (86.8%) indicated no, while 13.2% indicated they had dropped classes after the term had started (see Table 22). Tables 23-24 present the number of courses taken by students and identifies which classes were dropped by students.

Online Classes. Respondents were asked to identify the primary delivery method used in their courses. Almost two-thirds (65.8%) indicated that blended was the primary delivery method, 23.7% indicated that lecture/lab was the primary delivery method and the remaining 10.5% indicated that online course was the primary delivery method (see Table 25). Approximately half (55.3%) of respondents indicated that they preferred the lecture/lab delivery method and 39.5% indicated they preferred a blended approach (see Table 26). Respondents indicated that their preferences were related to flexibility in schedule, retained more when the delivery method was classroom, liked more hands-on opportunities, have the ability to access instructors, and liking the interaction between students and teachers and some students reported that they didn't like learning on their own (see Table 27).

In general, students accessed their online modules at home or on-campus. A few students use the public library while some students indicated that they go to “other” places (see Table 28).

About half (50.0%) of the students reported that it was easy or very easy to access their online modules (see Table 29) and that in general, did not experience very many issues connecting to the online modules (see Table 30).

Power Concepts. Almost two-thirds (60.5%) of the respondents indicated they had seen the power concept tutorials (see Table 31) and over half (56.5%) of those students who had seen the power concepts found them useful (see Table 32). One student that did not find power concepts useful indicated that the power concepts were a repeat of material already covered in the text (see Table 33).

Self-Paced Modular Courses. Over three-fourths (78.9%) of the respondents indicated the self-paced learning met their lifestyle needs, while 71.1% indicated they had easily adjusted to the self-paced learning. Over half (63.2%) of the students indicated their instructors connect/interact with them enough and that their instructors are supportive of the new teaching strategy (see Table 34). When asked what EICC could do to help them adjust to the self-paced learning, some students indicated they would rather have in class, they are working on getting adjusted, and would like to have set dates rather than have everything due at once at the end of the semester (10.0%; see Table 35).

Engagement. The majority (94.7%) indicated they do not participate in events, clubs, organizations, or contests (see Table 36). The two students that did indicate they do participate responded that they participated in bible study and picnics (see Table 37). In general, 78.9% of the students indicated that they either rarely or never missed classes, while 15.8% indicated that they have some absences (see Table 38). When the respondents did miss class, it was due to illness (28.9%), needing to work (23.7%), or other issues (47.4%; see Table 39).

Overall, resources available to assist students were considered helpful by the respondents. Most students thought tutoring, financial aid services/counseling, academic advising, supplemental instruction and workshops were helpful (see Table 40) and most thought that they had everything they needed to learn (see Table 41).

Approximately three-fourths (76.3%) of the students indicated they were satisfied with the classroom environments encouraging their success, the quality of the Engineering Technology program, and the quality of the academic advising (see Table 43).

Almost all of the students (89.5%) indicated their educational experiences in the Engineering Technology program had contributed to their intellectual growth (see Table 44), 84.2% indicated that their educational experiences in the Engineering Technology program prepared them for further study and 73.6% indicated that their educational experiences in the Engineering Technology program prepared them for their career (see Table 44).

Questions About You. Two-thirds (66.7%) indicated their focus area was electromechanical, 15.2% indicated automation, 12.1% indicated process control, and 6.1% indicated renewable energy. The majority (86.5%) of the students indicated EICC staff could contact them if needed.

The results are presented in the following sections: Enrollment/Goals, Advising/Registration, Classes, Online Classes, Power Concepts, Self-Paced Modular Courses, Engagement, and Questions About You.

ENROLLMENT/GOALS

The following section describes students' reasons for enrolling at Eastern Iowa Community Colleges and their educational and career goals.

Table 1.
How did you hear about EICC? (Select all that apply)

Mediums	Percentage
Television	4.5
Radio	4.5
Social Media (e.g., Facebook, Twitter, YouTube)	4.5
School Counselor or Advisor	13.6
I have previously taken classes at EICC	29.5
Employer/Work	22.7
I heard about it from a friend	15.9
I heard about it from a family member	31.8
Other	11.4

Note: The percentages do not add up to 100%.

n=44

Responses from the "Other" choice: Online (3)
Live in Muscatine (1)
Walk in (1)

Table 2.
What is your current employment status?

Employment Status	Percentage
Part-time employee	25.0
Full-time employee	27.3
Not employed	47.7

n=44

Table 3.
Why did you enroll at EICC? (Select all that apply)

Responses	Percentage
Close to home	65.9
Cost savings	43.2
Cutting edge technology	9.1
Challenging classes	11.4
I've taken classes at EICC in the past	22.7
I am a designated TAA worker	2.3
Easy transfer to another college	6.8
EICC has a close relationship with business and industry	36.4
Other	15.9

Note: The percentages do not add up to 100%.

n=44

Responses from the "Other" choice: MPW apprentice program (3)
 Build skills knowledge for employment (1)
 Flexible class schedule (1)

Table 4.
Prior to enrolling at EICC, how long has it been since you were last in school?

Responses	Percentage
Enrolled right out of high school	13.6
Less than 1 year	20.5
1 year	0.0
2 years	2.3
3 years	4.5
4 years	9.1
5 or more years	50.0

n=44

Table 5.
Why did you choose engineering technology as a degree program? (Select all that apply)

Responses	Percentage
I am interested in engineering technology	52.3
I want to work in the engineering technology field	54.5
I want to strengthen my skills in engineering technology	43.2
I need it in order to get an increase in wages or get promoted at my current job	29.5
The degree will allow me to get a better job with a different employer	36.4
Other	4.5
I have not chosen engineering technology as a degree program	0.0

Note: The percentages do not add up to 100%.

n=
Responses from the "Other" choice: Hoping to become a technical writer (1)
 Struggled in transitioning from high school into a full engineering program (1)

Table 6.
What is your current educational goal at EICC? (Please select the one that best describes your goal)

Educational Goal	Percentage
Take some classes	11.6
Complete Certificate Program	7.0
Complete Diploma	4.7
Complete AA/AS degree	67.4
Transfer to a 4 year college	2.3
Other	7.0

n=43
Responses from the "Other" choice: Complete AAS (1)
 Complete high school, then transfer (1)
 To never come back (1)

Table 7.***What is your current career goal at EICC? (Please select the one that best describes your goal)***

Career Goal	Percentage
Get a job	7.0
Get a job in engineering technology field	55.8
Keep my job	4.7
Get a promotion and/or increase my salary/wages at my current job	23.3
Get a better job in engineering technology than my current engineering technology job	4.7
Other	4.7

n=43*Responses from the "Other" choice:*

Get a better job with a different employer in a better field of work (1)

Lack of caring put forth by instructors would prevent all career development (1)

Table 8.***Which campus are you at most often?***

Campus	Percentage
Clinton Community College	7.1
Muscatine Community College	59.5
Scott Community College	9.5
Blong Technology Center	23.8

n=42**Table 9.*****Were you enrolled in a different program at EICC prior to starting the Engineering Technology program?***

Responses	Percentage
Yes	16.7
No	83.3
I am not in the Engineering Technology program	0.0

n=42

Table 10.
A few questions about your previous courses from a different EICC program.

Statements	<i>n</i>	Strongly Disagree	Disagree	Neither Agree nor Disagree	Agree	Strongly Agree
The blended courses in the Engineering Technology program are more convenient than the traditional lecture/lab courses in my previous program.	7	14.3	0.0	14.3	42.9	28.5
I prefer the blended courses to the traditional courses.	7	14.3	28.5	14.3	14.3	28.5

Note: Values reflect percentages.

ADVISING/REGISTRATION

This section describes students' perceptions about the engineering technology navigators. Specifically, respondents are asked to rate their navigator as well as provided information on how often they meet with their navigator.

Table 11.
Do you know who your engineering technology navigator is

Navigators	Percentage
Yes	76.2
I don't know who my navigator is	23.8

n=42

Table 12.
Please indicate the extent with which you agree or disagree with each of the following statements about your navigator. My navigator...

Statements	<i>n</i>	Strongly Disagree	Disagree	Neither Agree nor Disagree	Agree	Strongly Agree	Have not met with Navigator
is friendly	31	3.2	0.0	0.0	22.6	74.2	1
is helpful	31	6.5	0.0	0.0	22.6	71.0	1
is knowledgeable about program requirements	31	3.2	3.2	3.2	25.8	64.5	1
is knowledgeable about requirements for transferring to another college	31	3.2	3.2	25.8	16.1	51.6	1
is available	31	6.5	0.0	3.2	32.3	58.1	1
is accessible	31	6.5	0.0	0.0	35.5	58.1	1
helped me set goals	31	6.5	0.0	12.9	32.3	48.3	1
is providing assistance	31	6.5	0.0	12.9	25.8	61.3	1

Note: Values reflect percentages.

Table 13.
How often do you meet with your navigator?

Meeting Times	Percentage
Once per semester	46.9
Monthly	31.3
Once every other week	6.3
Once per week	3.1
More than once per week	0.0
I have not met with a navigator	12.5

n=32

Table 14.
On average, how long do the meetings with your navigator last?

Meeting Times	Percentage
0-15 minutes	28.1
16-30 minutes	43.8
31-45 minutes	12.5
46-60 minutes	0.0
Over an hour	3.1
I have not met with a navigator	12.5

n=32

Table 15.
Do you have an individual success plan?

Responses	Percentage
Yes	45.2
No	19.0
I don't know what an individual success plan is	35.7

n=42

Table 16.
Please indicate how useful your individual success plan has been?

Usefulness	Percentage
Not at all useful	0.0
Slightly useful	10.5
Fairly useful	47.4
Very useful	42.1

n=19

Table 17.
Why do you find the individual success plan useful?

Responses	Percentage
Helps set goals	66.7
Helps me stay on task	20.0
Helps with problems	6.7
No question of courses needed	6.7

n=15

Table 18.
Why do you not find the individual success plan useful?

Responses	Percentage
Already taking classes through work	50.0
Know what classes I need next	50.0

n=2

CLASSES

This section centers on the classes offered as part of the engineering technology program as well as the instructors' abilities.

Table 19.

Please indicate how helpful the following classes have been in improving your employable skills.

Classes	<i>n</i>	Not at all helpful	Slightly helpful	Fairly helpful	Very helpful	Have not taken
ATR 105	5	0.0	20.0	40.0	40.0	33
ATR 106	2	0.0	0.0	100.0	0.0	36
CSC 110	10	0.0	10.0	40.0	50.0	28
CSC 112	4	0.0	50.0	50.0	0.0	34
CSC 113	4	0.0	50.0	50.0	0.0	34
EGT 117	4	0.0	25.0	25.0	50.0	34
EGT 135	3	0.0	33.3	33.3	33.3	35
EGT 137	3	0.0	33.3	33.3	33.3	35
ELE 101	28	14.3	10.7	17.9	57.1	10
ELE 216	31	3.2	9.7	25.8	61.3	7
ELE 217	18	5.6	11.1	38.9	44.4	20
ELE 225	5	0.0	0.0	20.0	80.0	33
ELE 309	4	0.0	25.0	25.0	50.0	34
ELT 123	6	0.0	16.7	16.7	66.7	32
ELT 125	5	20.0	20.0	0.0	60.0	33
ELT 177	3	33.3	0.0	0.0	66.7	35
ELT 312	7	28.6	14.3	0.0	57.1	31
IND 134	24	0.0	12.5	25.0	62.5	14
IND 136	2	0.0	0.0	100.0	0.0	36
IND 137	2	0.0	0.0	100.0	0.0	36
IND 143	2	0.0	0.0	100.0	0.0	36
MAT 128	7	28.6	28.6	28.6	14.3	31
MAT 210	5	0.0	40.0	40.0	20.0	33
MAT 705	20	5.0	10.0	45.0	40.0	18
MAT 706	13	7.7	7.7	46.2	38.5	25
MFG 505	3	33.3	33.3	33.3	0.0	35
PHY 185	4	0.0	75.0	25.0	0.0	34
PHY 186	4	0.0	75.0	25.0	0.0	34
SER 100	2	0.0	50.0	50.0	0.0	36

Note: Values reflect percentages.

Table 20.

Please indicate the extent with which you agree or disagree with each of the following about your engineering technology instructors:

Statements	<i>n</i>	Strongly Disagree	Disagree	Neither Agree nor Disagree	Agree	Strongly Agree
My instructors are friendly	38	2.6	0.0	2.6	28.9	65.8
My instructors are helpful	38	2.6	2.6	5.3	31.6	57.9
My instructors are knowledgeable about subject matter	38	2.6	5.3	5.3	28.9	57.9
My instructors are available to answer questions about class, homework, or assignments	38	2.6	0.0	13.2	15.8	68.4
My instructors are accessible	38	2.6	2.6	7.9	26.3	60.5
My instructors provide guidance as needed	38	2.6	2.6	5.3	23.7	65.8

Note: Values reflect percentages.

Table 21.

About how many hours a week do you usually spend on an EICC campus attending classes?

Class Hours	Percentage
0 hours	5.3
1 to 3 hours	15.8
4 to 6 hours	28.9
7 to 9 hours	10.5
10 to 12 hours	26.3
More than 12 hours	13.2

n=38

Table 22.
Did you drop any classes in the Engineering Technology program after a term had started?

Responses	Percentage
Yes	13.2
No	86.8

n=38

Table 23.
Which class(es) did you drop?

Responses	Percentage
AC Circuit Analysis	25.0
Blueprint Reading	25.0
DC	25.0
Intro to Computers	25.0
Elementary Algebra	25.0

Note: Some respondents provided multiple responses.
n=4

Table 24.
Approximately how many courses have you taken since you started the program (including the current semester)?

Responses	Percentage
0	2.6
1	7.9
2	10.5
3	18.4
4	5.3
5	7.9
6	13.2
7	7.9
8	2.6
9	2.6
10	5.3
11-15	13.1
More than 15	2.6

Note: Some respondents provided multiple responses.
n=38

ONLINE CLASSES

This section centers on the accessing of the online modules. Specifically, students are asked about the places where they access the modules and problems they have had in accessing the modules.

Table 25.

What is the primary method of delivery for courses you are enrolled in or have taken at EICC?

Delivery Methods	Percentage
Online	10.5
Lecture/Lab	23.7
Blended – a combination of online and lecture/lab	65.8

n=38

Table 26.

Which class format (i.e., delivery method) do you prefer the most?

Delivery Methods	Percentage
Online	5.3
Lecture/Lab	55.3
Blended – a combination of online and lecture/lab	39.5

n=38

Table 27.

Please explain your preference between online, in-class learning, or blended classes.

Responses Provided	Percentage
Flexibility in my schedule	34.4
Retain more from in class learning	28.1
In class – more hands on	18.8
Technical fields need lecture	18.8
Still have access to instructors	15.6
Need toe structure of in class learning	12.5
I like lab learning experience	9.4
In class due to teacher-student interaction	9.4
I don't like learning on my own	3.1
I'm a tactile learner	3.1
In class learning	3.1

Note: Some respondents provided multiple responses.

n=32

Table 28.
Where do you access the online modules?

Places	Percentage
At home	60.5
On campus	42.1
At work	0.0
At the public library (or other public place)	2.6
Other	10.5

n=44

Responses from the “Other” choice: My grandmother’s house (1)

Table 29.
The following question asks you to consider your experience when accessing the online modules for the first time. How easy was it to access the online modules?

Difficulty	Percentage
Very Difficult	5.3
Difficult	2.6
Somewhat Difficult	5.3
Somewhat Easy	36.8
Easy	23.7
Very Easy	26.3

n=38

Table 30.
Have you had any of the following problems connecting to the online modules?

Statements	<i>n</i>	Never	Rarely	Sometimes	Most of the Time	Always
Unable to connect	16	43.8	18.8	31.3	0.0	6.3
Takes too long to connect	16	37.5	18.8	31.3	6.3	6.3
Streaming video breaks up	16	50.0	25.0	18.8	6.3	0.0
Connection drops	16	56.3	12.5	25.0	6.3	0.0
Software not up to date	16	56.3	12.5	18.8	6.3	6.3

Note: Values reflect percentages.

POWER CONCEPTS

The following section describes students' perception about the power concepts developed specifically for the program.

Table 31.
Have you seen any of the power concept tutorials?

Responses	Percentage
Yes	60.5
No	15.8
I don't know about the power concepts	23.7

n=38

Table 32.
Did you find the power concept tutorials useful?

Usefulness	Percentage
Very Useless	4.3
Useless	0.0
Somewhat Useless	4.3
Somewhat Useful	34.8
Useful	26.1
Very Useful	30.4

n=23

Table 33.
Why did you not find the power concepts useful?

Responses	Percentage
Repeat of material already covered in text	100.0

Note: Some respondents provided multiple responses.
n=1

SELF-PACED MODULAR COURSES

This section centers on the self-paced modular courses and how the students are adjusting to the new self-paced modular format.

Table 34.
Questions about your self-paced modular courses.

Statements	<i>n</i>	Strongly Disagree	Disagree	Neither Agree nor Disagree	Agree	Strongly Agree
The self-paced learning meets your lifestyle needs (i.e., you are able to do the coursework when it is most convenient for you).	38	2.6	5.3	13.2	28.9	50.0
I have easily adjusted to the self-paced learning.	38	5.3	7.9	15.8	31.6	39.5
My instructors <i>do not</i> connect/interact with me enough.	38	39.5	23.7	26.3	5.3	5.3
My instructors are supportive in this new teaching strategy.	38	10.5	10.5	15.8	26.3	36.8

Note: Values reflect percentages.

Table 35.
How can EICC help you adjust to your self-paced modular courses?

Responses	Percentage
Would rather have in-class	50.0
Working to get adjusted	20.0
Have an intro on how blended courses work	10.0
Set due dates	10.0
The course materials need tweaking	10.0

Note: Some respondents provided multiple responses.
n=10

ENGAGEMENT

This section centers on the students' participation in clubs/events and attendance. Students are also asked about specific resources and to rate the availability of opportunities.

Table 36.
Do you participate in any EICC events, clubs, organizations, or contests?

Responses	Percentage
Yes	5.3
No	94.7

n=38

Table 37.
Which EICC clubs/organizations/events/contests did you participate in?

Responses	Percentage
Bible Study	50.0
Picnics	50.0

n=2

Table 38.
In general, how would you rate your class attendance?

Attendance	Percentage
Excessive absences	5.3
Some absences	15.8
Rarely absent	36.8
Never miss class	42.1

n=38

Table 39.
In general, what is the main reason for not attending classes? (Select all that apply)

Reasons for Missing Class	Percentage
Illness	28.9
Child care issues	5.3
Transportation issues	10.5
Need to work/can't get time off	23.7
Other	47.4

Note: The percentages do not add up to 100%.

n=44

Responses from the "Other" choice: Work from home (4)
 Appointments (2)
 Another class at same time (1)
 Instructor's attitude (1)
 No reason to go (1)
 Tired (1)

Table 40.
Please indicate the extent with which each of the following resources has helped you:

Resources	<i>n</i>	Not at all helpful	Slightly helpful	Fairly helpful	Very helpful	Have not used
Tutoring	10	30.0	10.0	20.0	40.0	28
Financial Aid Services/Counseling	24	12.5	4.2	20.8	58.3	14
Academic Advising	28	7.1	7.1	32.1	53.6	10
Supplemental Instruction	14	14.3	21.4	28.6	35.7	24
Workshops	10	20.0	20.0	20.0	40.0	28

Note: Values reflect percentages.

Table 41.
Do you have access to everything you need in order to learn?

Responses	Percentage
Yes	86.8
No	13.2

n=38

Table 42.
If no, what do you need?

Responses	Percentage
Actual coursework	25.0
Books	25.0
Home computer	25.0
More hands on, less book work	25.0

n=4

Table 43.
How satisfied are you with each of the following:

Statements	<i>n</i>	Very Dissatisfied	Dissatisfied	Neutral	Satisfied	Very Satisfied
Classroom environments that encourage my success	38	5.3	2.6	15.8	31.6	44.7
Quality of Engineering Technology program	38	5.3	10.5	7.9	36.8	39.5
Quality of academic advising	38	2.6	2.6	18.4	39.5	36.8
Opportunities to engage in clubs and organizations that match my interest	38	2.6	2.6	52.6	26.3	15.8
The number of opportunities available to me to find a job in my field	38	2.6	0.0	47.4	21.1	28.9
Job placement opportunities (e.g., linking with employers)	38	2.6	0.0	42.1	26.3	28.9
Availability of internships in my field that will further my career	38	2.6	2.6	44.7	26.3	23.7
Assistance provided by my Engineering Technology program in getting a good internship	38	2.6	2.6	52.6	21.1	21.1

Note: Values reflect percentages.

Table 44.*Please indicate the extent with which you agree with each of the following:*

Statements	<i>n</i>	Strongly Disagree	Disagree	Neither Agree nor Disagree	Agree	Strongly Agree
My educational experiences in the Engineering Technology program have contributed to my intellectual growth (e.g., acquiring knowledge, skills, ideas, concepts, analytical thinking)	38	2.6	2.6	5.3	39.5	50.0
My educational experiences in the Engineering Technology program have prepared me for further study	38	5.3	2.6	7.9	42.1	42.1
My educational experiences in the Engineering Technology program have prepared me for my career	38	5.3	5.3	15.8	36.8	36.8

Note: Values reflect percentages.

QUESTIONS ABOUT YOU

This section describes students' focus area of study and whether they were available for further contact.

Table 45.
Focus area:

Focus Areas	Percentage
Automation	15.2
Electromechanical	66.7
Process Control	12.1
Renewable Energy	6.1

n=33

Table 46.
Can EICC staff contact you if needed?

Responses	Percentage
Yes	86.5
No	13.5

n=37