Introduction

The Missouri Department of Elementary and Secondary Education requires that completers of career programs take a Technical Skills Assessment, wherever such an assessment is available and appropriate. The assessment should be industry-recognized. Many, but not all, of the MCC career programs have a TSA. Beginning with the 2011-12 school year, all programs are also expected to assess at least one program outcome, report the results, and identify any needed interventions or follow-up actions.

The information summarized here was collected through program development plans submitted by the programs, as well as data provided for state reporting purposes. This report refers to assessment activities conducted during the 2015-16 school year.

Automotive

Automotive TSA results (NA3SA exams) for MCC-Longview Automotive: Twenty-nine students took exams and twenty-eight of them passed 65% or more of exams taken. Twenty-five passed all exams they took. The lowest scoring area form the previous two years had been suspension and steering. The program split that into a separate class and was monitoring this year to see if results improved. The result was that 27/28 passed the suspension and steering exam.

In addition, the AUTO program assessed the following program outcome: Students will demonstrate the knowledge of thorough application of safety rules and regulations. The written exam used to assess this outcome is an online product through CCAR called SP2 (Safety and Pollution Prevention). It is an industry standard. Each student must complete this SP2 industry standard to training to progress in the program. In addition all instructors cover safety as it relates to the specific area that is being learned in the class and laboratory for that specific course section. The program plans are to continue the strong emphasis on safety.

Business

The business program uses NOCTI as its TSA. Nine out of twelve students (75%) taking the NOCTI 3000 Accounting Basic exam passed. Twenty out of twenty-three (87%) passed the NOCTI-Accounting Advanced (3900). Students in the management program take the A*S*K* Fundamentals of Business Institute exam, and nine out of nine (100%) passed in 2015-16.

Child Growth and Development

Students exiting the program are required to take the NOCTI (National Occupation Competency Testing Institute) test for Early Childhood Education and Care. Last year only three students were eligible to take the TSA and two passed. Curriculum changes were implemented and this year nine students were eligible and all nine passed.

Computer Integrated Machining and Manufacturing
In fall 2015, the following program outcome was evaluated: The program will graduate individuals who exhibit competence in the entry-level skills of technical profession manufacturing technology. The coordinator will work with business partners to verify that curriculum is what they need for the students to learn.

The coordinator is continuing to gather data on the CIMM 105 Blueprint Reading class as it has been the major stumbling block to student success. A new faculty member is teaching it this year, and a new book was selected for the fall semester.

The program assessed two outcomes in the spring: “Students will demonstrate professional oral and written communication skills”, and “Students will think critically and apply problem-solving skills.” Based on assessment results, the class was changed from a single-credit class to a two-credit class due to the high failure rate.

**Computer Science - Cisco**

The CCNA exam is the TSA for the Cisco program, and 11 out of 20 students passed the CCNA in spring 2016. The Mo-STEM grant was implemented to provide supplemental instruction for CSIS 112 & CSIS 113. The supplemental instruction included certification exam practice early on in the curriculum process as well as focused instruction on highly technical areas covered in the TSA. Four hours of supplemental instruction per week was given while the student was enrolled in CSIS 112 & CSIS 113. The same instructor was used for teaching the capstone course CSIS 290 where the TSA is administered and the supplemental instruction course.

The program integrated TestOut Routing and Switching Pro curriculum into the course to provide additional material for students to practice for their TSA certification exam. This gives students two routes to do practice certification exams (TestOut and Cisco Certification Guides) in addition to in-class lectures on required material for the exam. Bridging material was added to CSIS 112, 113, 212 and 213 to prepare students for the latest updates to the Cisco CCNA Routing & Switch exam. The certification update includes items not addressed in current curriculum, so the bridging material is necessary to fill in the gap.

For 2015-16 the CTE Program Outcome assessed was: Use industry specific software and/or apply troubleshooting skills to solve problems. It was assessed in the CSIS 213 Spring 2016 day class taught by Katherine Ellis according to the following indicators:

- Uses internetworking operating system software for router and switch configuration to control the flow of information through a network.
- Troubleshoots and repairs problems with information flow through a network.

The instrument used was the CSIS 213 Accessing the WAN practical final. Results were that the CSIS 213 day class scores ranged from 53-100. Out of 11 students there were 7 A’s, 3 B’s, and 1 F. Given the results, 91% of the students adequately achieved the skills measured in the program outcome. This is a
9% decrease from FY15. More emphasis on hands on labs and review of skills learned in hands on labs will be placed in FY17 in an attempt the increase assessment results.

**Computer Science and Information Systems – Secure Systems**

The Secure Systems program recently added CompTIA exams to serve as TSA’s, but no students took these exams as part of the program in 2015-16.

In both fall 2015 and spring 2016 semesters, the program collected results from the chapter 3 SAM project from all sections of CSIS 115 to assess the outcome: Demonstrate professional oral and written communication skills, using the indicator: Utilizes technical presentation tools (such as PowerPoint) in an effective manner. The data is still being analyzed by the research department.

**Computer Science and Information Systems – Web Technologies**

The CIW certifications are used as the Web Technologies TSA. In 2015-16 no students took the exam, and the program is being phased out.

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**Construction Management**

This program is new and has not submitted a PDP yet. It does not have a TSA.

**Dental Assisting**

The national board exam serves as the TSA, and it has three parts: radiology, infection control, and chair-side assisting. Students used Learning Express board prep software in fall 2015 prior to taking the boards. Multiple timed mock national board exams were also offered to students both in RHS and ICE, in order to simulate the experience prior to the actual test date. The Classes of 2014 and of 2015 pass rates were 89-95%. The fall of 2016 board results have improved significantly from previous year (100% passed, and every student passed all three portions), which denotes the DA curriculum and clinical requirements and instructional delivery are facilitating and supporting student learning.

**Emergency/Paramedic**

The national registry exam serves as the TSA for this program. Out of 26 2015 graduates tested so far, 18 passed the national exam and 8 have failed.

**Engineering Technology**

This program has no TSA currently required, but is considering some Certiport exams.
The program outcome assessed was: “Produce a three-dimensional model from an orthographic engineering drawing using the current release of AutoCAD.” The drawing should be accurately drawn, dimensioned and plot to scale using any orthographic scale using the paper space method.

Last semester the CADD II class was assessed for 3D modeling capabilities. The results were very good. The students only have 8 weeks in 3D modeling with AutoCAD and they were able to produce very detailed 3D drawings.

**Environmental Health and Safety**

There currently is no TSA being used. There are several HSE professional designations that can be obtained by successful completion of certification by examination. However, these designations/examinations require the HSE professional to have several years of experience prior to sitting for the exams. Therefore, we are developing a preliminary examination to be used in future capstone courses to better determine effectiveness of curriculum.

The final exam for the capstone EHSS 290 course is currently used for program outcome assessment. There were 3 students in the program. Two of the students earned an A and one of the students earned a B.

The program outcomes assessed were:

- Describe key aspects of being a EHS program coordinator
- Name the key elements of successful EHS programs.
- Discuss the importance of strategic planning and cost benefits of EHS program implementation
- Demonstrate application of EHS regulations into company policies.

Student scores met expectations and no major changes are planned.

**Fire Science**

The fire program cannot always get access to TSA results (Firefighter exam scores) but they try to determine results through student interviews. They appear to have approximately 85-90% passing. Although the fire academy TSA scores are well above the state average they did take some initiatives to improve student success. Based on feedback from area fire service leaders our fire science Instructors are now focusing more on mastery and outcome based strategies.

**Graphic Design**

A portfolio assessment scored by local industry representatives serves as the TSA. Student performance has remained relatively the same since it began. The program coordinator works with the adjuncts to review and explore various learning experiences to prepare the students for industry. The program receives praise from the industry professionals and university faculty who participate in the portfolio reviews: the two-year portfolios are on par with most of the four-year portfolios and students are very prepared when they transfer to four-year programs.
All ten students completing a portfolio were given a passing score by a panel of employers. In addition, sixteen students in GDES 210 were given a skills assessment using InDesign to do an editorial layout. All sixteen passed the assessment.

**Health Information Management**

The program TSA is the RHIT. In 2015-16 five students took the exam and all five passed. The coding program uses the CPC as its TSA. One out of two students taking this exam passed.

**Heating and Air-conditioning**

The program outcome assessed was: *The program will graduate individuals who exhibit competence with entry-level skills in the heating, ventilation, and air conditioning.*

The HVAC 136 class took the ESCO exam and 9/10 passed with an 80% or better.

**Industrial Technology**

INTE 112 and 113 were assessed because of student concerns, and The INTE department is rewriting some of the lab material for clarity and more consistency amongst different instructors. This also ensures material needed for successive classes is covered as needed. INTE 112 is done and now the program is focusing on INTE 113.

The program is working toward alignment of curriculum with PMMI exams as a potential TSA. Alignment with PMMI Level I certifications is complete, and alignment with PMMI Level II is anticipated by academic year 2017-2018.

**Law Enforcement**

The State of Missouri POST exam is used as a TSA. In 2015-16 there was a 100% pass rate in all academies. Each year the program reviews the POST learning objectives to ensure that students are learning the most current Police techniques available to meet State of Missouri licensing requirements. The resulting student high score averages on assessment instruments validates current curriculum. TSA results continue to be monitored however the results indicate that no curriculum changes are needed at this point.

**Lineman**

This program does not have a TSA, but is looking into the Construction Skills Aptitude Test for all students. The program completed one on one evaluations for each student.

**Occupational Therapy Assistant**

The program TSA is the national board exam from NBCOT. All 16 students taking the exam in spring 2016 passed. Current course content, schedule, clinical assignments and instructional methodology appear to be successfully supporting student success.
Physical Therapy Assistant

The program uses the national boards from NPTE as a TSA. All 30 tested students passed.

Practical Nursing

The NCLEX national exam is used as the TSA. The December 2015 grads have a 72.73% pass rate so far (33 delivered 24 passed, 9 failed). Only two of the July 2016 grads have taken the NCLEX so far and both passed.

Registered Nursing

The NCLEX-RN exam is used as the TSA. The December 2015 grads have an 82.67% pass rate (75 delivered, 62 passed, 13 failed). For May 2016 grads there is a 87.88% pass rate so far (33 delivered, 29 passed, 4 failed).

Radiological Technology

The program uses the national registry exam from ARRT as its TSA. Fifteen out of nineteen 2016 grads have passed the exam so far.

Surgical Technology

The national certification exam (CST) is used as a program TSA. The program received a letter of congratulations from the CEO of the National Board of Surgical Technology and Surgical Assisting along with a certificate of recognition and media release, because the MCC-Penn Valley students who took the national certification examination between August 1, 2015 and July 31, 2016 achieved an overall pass rate of 95%. The required benchmark set by the accreditation body is 70%. The program has made numerous changes over the past several years in response to previous CST results.

Veterinary Technology

The program uses the Veterinary Technician National Examination (VTNE) as its TSA but does not typically have access to scores by student. The program outcome assessed was: Obtain national certification.

Results for the 2015-16 testing cycle were: March – April Testing, 1 took it, 1 passed; July – August Testing, 19 took it, 18 passed; November – December Testing, 6 took it, 5 passed. The program has been discussing with students the advantage of taking the exam in the first testing window (July-August) compared to the second (Nov.-Dec.) and the third (March-April).

Welding

The AWS SENSE Modular exams are used as the TSA. This year, 7 of the 18 students pass the TSA.

The program outcome assessed was “The program will graduate individuals that meet or exceed the American Welding society’s guidelines for entry-level employees in welding technology.” It was
evaluated through the indicator “Demonstrate ability to apply welding, cutting, and print reading skills to layout and fabrication.”

A project is used to assess this outcome. Each student fabricates the parts for a completely assembled tractor unit from sub-assembly prints. The final assessment is the unit being assembled and working as expected. Students are receiving more one-on-one instruction throughout the fabrication of the project. The results are immediate with better quality of parts being realized.