

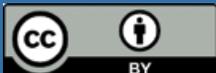
Mitchell Technical Institute's Technical Education at a Distance (TED) Program

Final Evaluation Report

PREPARED BY JOHN SWANSON AND JULIE ERICKSON, TIE | SEPTEMBER 2016



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TABLE OF CONTENTS

Executive Summary	page 3
TAACCCT Program/Intervention Description and Activities	page 6
Evaluation Design	page 11
Implementation Findings	page 15
Participant Impacts and Outcomes	page 27
Conclusion	page 30
References	page 32
Appendices	
A. SLPA Curriculum	
B. GST Course Descriptions	
C. SLPA State Certification Application	
D. iPad SLPA Apps	
E. Articulation Agreements from USD and DWU	
F. SLPA Advisory Council Minutes	
G. TED Logic Model	
H. Level of Implementation Matrix	
I. TAACCCT Definition of Participant	
J. MTI Organizational Chart	
K. Telepractice Ad	
L. SME Rubrics	
M. Outcome Measures	
N. SOW Modification Request	
O. MTI's Placement Reports 2013-15	
P. 2015 Academic Leaders Tool of the Year	



I. Executive Summary

TAACCCT Program/Intervention Description and Activities

- Mitchell Technical Institute (MTI), located in Mitchell, South Dakota, was awarded a four-year federal TAACCCT grant in September of 2012 to implement the Technical Education at a Distance Model (TED) program.
- MTI's efforts with the grant involved two programs. One program is the Speech-Language Pathology Assistant (SLPA) AAS degree program and the second is the Geospatial Technologies (GST) certification program. The TED-SLPA program was launched in January 2013 and the GST program was launched in August 2014, after being approved by the U.S. DOL as an additional program funded by MTI's TED grant.
- The purpose of the Technical Education at a Distance (TED) model was to create a unique mentor-supported, hands-on, hybrid distance learning model to support TAA-eligible and low-skilled workers in South Dakota. The GST program component was added in order to enhance the skill set of current MTI students as well as professionals working fields which utilize geospatial technologies
- Two specific groups were ideally suited for the SLPA component. One group were paraprofessionals who worked in an SLPA capacity, but had not yet attained any certifications in the field. A second group consisted of individuals who were interested in becoming SLPAs in rural or tribal K-12 schools. GST focused on serving MTI students enrolled in the Propane and Natural Gas Technologies, Power line Construction and Maintenance, and Telecommunications programs.

Evaluation Design

- The main goal of this program evaluation was to collect information from a variety of sources to inform adjustments to the program and to estimate its overall effectiveness.
- MTI hired the BC Kuhn Evaluation Team in 2012 to conduct the program evaluation of the TED program. BC Kuhn conducted the evaluation until January 2016. TIE, Technology and Innovation in Education, was hired in February 2016 to complete the final report for the TED program. Annual and interim evaluation reports were created by BC Kuhn during the first



three years of the program, and TIE has used those reports extensively to develop this final evaluation report.

- A logic model was collaboratively created with program leaders and described how the TED program was designed to work. It maps out the relationships among the program's inputs/resources, its main activities/interventions, the outputs derived from those activities, and the overall outcomes and impacts the program is striving for.
- A "Level of Implementation Matrix" was used to help program leaders evaluate progress and prioritize areas for future programming.
- Four evaluation questions used to focus the implementation analysis were required in the TAACCCT Round 2 Solicitation of Grant Applications (SGA). A fifth evaluation question was identified to help assess the growth in MTI's capacity with technical education at a distance.
- The original evaluation plan was revised to be an outcomes-only study when the official definition of a "participant" was announced by the TAACCCT program in 2014.
- Performance on the outcome measures was tracked by *Jenzabar*, MTI's student information systems. Evaluators focused on determining which outcome measures met their targeted goals and which did not.

Implementation Findings

- An instructional development team, comprised of a technical support technician, instructional media developer, SLPA instructional designer, curriculum coordinator and instructional strategist was hired to develop the TED-SLPA program.
- MTI developed a Virtual Classroom that could be used asynchronously to share instruction to include speech pathology scenarios and other instructional materials.
- An instructor was hired for the Geospatial/GST certification training and a curriculum was developed and piloted with students in the fall of 2014.
- 21 activities were fully implemented for the TED-SLPA program and 3 additional activities were fully implemented for the GST component of the grant.
- Nine deliverables were completed to document the grant's implementation, including seven which were required to be reviewed by a Subject Matter Expert. All reviewed deliverables were uploaded to the TAACCCT repository.



- The South Dakota Department of Labor and Regulation assisted MTI by identifying unemployed or underemployed individuals, supplying NCRC testing support, offering employment connections for program graduates, and providing data collection services, including TED participant employment and wage data for reporting purposes.

Participant Impacts and Outcomes

- MTI met its targeted goal for all outcome measures except outcome measure # 9, which reports the number of participants retained in employment in the second and third quarters after program completion. Due to a waiting period to acquire employment data from the South Dakota Department of Labor and Regulation of up to six months, it is possible that the target for outcome measure # 9 will be met, once that data is available.
- 142 individuals completed a grant-funded program of study. Collectively, those individuals earned a total of 189 credentials in the fields of Speech-Language Pathology Assistant or Geospatial Technologies.
- Students found the most effective components of the TED model to be the regional labs where they met for face-to-face instruction; practice with mentors; the use of *VoiceThread*, an online tool which facilitates interaction among students; their classmates; and the instructors.
- Students gave high marks about the sufficiency of technical support necessary to engage with the technological components of the program.
- From technology tools to curriculum simulations to support systems, the TED project’s “recipe” for student success continues to be an important design element for other online programs.

Conclusion

- Although the time to establish a robust infrastructure which was compatible with MTI’s learning management system and various digital applications was underestimated by program leaders, it was a critical factor in the success of the TED model.
- The TED model is an important resource for addressing the needs of rural America and its application to other technical fields and settings warrants further research and funding.



II. TAACCCT Program/Intervention Description and Activities

Mitchell Technical Institute (MTI), located in Mitchell, South Dakota, was awarded a four-year federal TAACCCT grant in September of 2012 to implement the Technical Education at a Distance Model (TED) program. The goals of the federal TAACCCT grant program are to:

1. Increase credential attainment (including certifications, certificates, and diplomas)
2. Introduce innovative and effective methods for curriculum development and delivery that address industry needs and lead to improved learning outcomes and retention rates
3. Demonstrate improved employment outcomes

MTI's efforts with the grant involved two programs. One program is the Speech-Language Pathology Assistant (SLPA) AAS degree program and the second is the Geospatial Technologies (GST) certification program. The TED-SLPA program was launched in January 2013 and the GST program was launched in August 2014, after being approved by the U.S. DOL as an additional program funded by MTI's TED grant.

TED-SLPA created a hybrid environment that delivered interactive media-rich content to participants, established small learning communities with hands-on (face-to-face regional labs supervised by local adjunct faculty), and strengthened academic, professional, and personal support by providing participants with mentors. The program also offered full-time, supervised internship opportunities in health care or education settings where students directly applied their SLPA skills with clients.

Students enrolled in TED-SLPA typically completed the program in 2 or 3 years to earn an SLPA Associates of Applied Science (AAS) Degree (**Appendix A**). Some also earned the National Career Readiness Certificate (NCRC) and ETS ParaPro certification during the program. SLPA licensure from the South Dakota Department of Health could also be earned either during or after the program.

The purpose of the Technical Education at a Distance (TED) model was to create a unique mentor-supported, hands-on, hybrid distance learning model to support TAA-eligible and low-skilled workers in South Dakota. Students in this model are able to:

1. Complete innovative and engaging online classes from their home community



2. Practice hands-on skills at periodic face-to-face laboratories held at regional sites with adjunct faculty who are certified Speech-Language Pathologists.
3. Interact with local mentors who support students as they progress through the program.
4. Participate in an 8-week fieldwork experience under the supervision of a licensed speech-language pathologist.

In addition, partnerships were developed between school districts and educational cooperatives to facilitate support for the student while attending school and possible employment for the student after completing the program. This arrangement was coined the “Grow Your Own” program.

The GST program component was added in order to enhance the skill set of current MTI students as well as professionals working fields which utilize geospatial technologies. GST also fulfills a need for workers in South Dakota telecommunications, utilities, agriculture, and construction industries. Certification was gained by completing a one or two credit course that could be completed over a 17-week semester (**Appendix B**).

As required by the TAACCCT program, MTI used the following five core elements when designing their TED programs.

1. Evidence-based Design

MTI utilized current research to design the TED program. Research about the effectiveness of small learning communities drove the idea to include “regional labs” as a part of the program. Interactive case studies were also included in the curriculum design to apply strong evidence that online learning is enhanced by telling stories relevant to the subject matter under study. Practicing Speech-Language Pathologists were used as mentors to apply the research from the National Dropout Prevention Center and others which points to the educational benefits of role models and positive support systems.

2. Stacked and Latticed Credentials

The TED-SLPA program was designed as a two-year program culminating with an **AAS degree**. Students could also earn two additional certifications as part of the program of study. The **NCRC certificate**, offered by ACT Inc., gauges individuals’ skill level in applied mathematics, locating information, and reading for information. The **ETS ParaPro Assessment** tests individuals’ reading, writing, and mathematics knowledge, along with their



capacity to apply that knowledge in the classroom. The South Dakota Department of Education utilizes test results as a method to determine if a person is a qualified paraprofessional under the former NCLB Act. Students earning the AAS degree could also gain **state certification as an SLPA**, a mandate in South Dakota by July 1, 2020. (**Appendix C**). When MTI added a GIS component to its TED grant program for the third year, students successfully completing this GIS component of their programs earned an industry-recognized certificate of completion.

3. Online and Technology-Enabled Learning

Research about effective online learning indicates that a hybrid delivery method which combines interactive, asynchronous content with advanced communication technology represents best practice for delivering instruction via distance. MTI utilized a number of innovative, technology-enabled learning components within its TED-SLPA program.

Students were supplied with iPads fully loaded with SLPA appropriate applications

(**Appendix D**), acquired with grant funds, to access course content through MTI’s learning



management system called *MyMTI*. Online tools such as *VoiceThread* and *TheraSimplicity* were utilized to create a “Virtual Classroom” experience for students.

A collaboration with *Simucase*, a set of computer simulations to teach decision-making skills in speech-language pathology, resulted in four case studies appropriate for students training to be Speech-

Language Pathology Assistants. The simulations were focused on interventions and screening of virtual clients called “avatars” in a non-threatening environment in which repeated practice was encouraged.

4. Transferability and Articulation

MTI works closely with the other three technical institutes in South Dakota and, as a result of this TAACCCT grant and TAACCCT grants from previous rounds, transfer credit among these institutions is commonly accepted. All technical institutes currently have policies in place which grant credit for students’ prior learning. Articulation agreements

are also in place with both Dakota Wesleyan University and the University of South Dakota which enable students to extend their education and obtain advanced degrees. **(Appendix E).**

5. Strategic Alignment

All programs at MTI utilize advisory councils consisting of industry partners to help shape the curriculum and expectations for the program. The TED-SLPA and GST programs are no exception. An example of the minutes from the SLPA Advisory Council can be found in **Appendix F.**

MTI's relationships with K-12 school districts and educational cooperatives helped to develop a "Grow Your Own" model of recruitment for the TED-SLPA program. Existing employees who received the Speech-Language Pathology Assistant (SLPA) training in order to fill a need at their schools made a commitment to work in the district for a certain time period in exchange for tuition assistance paid by their employer.

Practicing Speech-Language Pathologists were used as adjunct faculty for the TED program. SLPs were contracted directly as MTI adjunct faculty.

The South Dakota Department of Labor and Regulation partnered with MTI to supply employment and wage data for reporting performance on the required outcome measures. The agreement for this service was put in place during the first round of TAACCCT funding for all technical institutes in South Dakota. Also at the state level, the South Dakota Workforce Investment Board assisted the TED program by actively referring TAA eligible and other candidates seeking a career change to MTI.

TED was designed to support TAA-eligible and low-skilled workers in South Dakota, as well as low-income individuals and those living in remote rural and reservation-based areas. Two specific groups were ideally suited for the SLPA component. One group were paraprofessionals who worked in an SLPA capacity, but had not yet attained any certifications in the field. A second group consisted of individuals who were interested in becoming SLPAs in rural or tribal



K–12 schools. To be eligible, all students must have successfully completed the MTI admissions process. Veterans and TAA-eligible workers were given enrollment preference in the program.

A key aspect of the TED model was to allow students to remain in their home region while being trained for a high-needs technical job leading to local employment. During the first year of the program, the average distance from students' hometowns to Mitchell Technical Institute was 170 miles. The average distance increased to 225 miles during the second year of the program and then fell to 129 miles during year three.

The map below shows the geographic distribution of TED students across the state of South Dakota, a vast area of over 78,000 square miles. The figures on the map represent the regional learning lab locations and the colored markers indicate participants' place of residence and assigned lab region. The airplane symbols represent out-of-state students from Texas, Wyoming, Illinois, California, Arkansas, and Alaska.



After gaining approval to add a second program to the grant project, MTI launched the Geospatial Technologies (GST) courses in the fall of 2014. GST focused on serving MTI



students enrolled in the Propane and Natural Gas Technologies, Power line Construction and Maintenance, and Telecommunications programs. All GST students were male, Caucasian, and the average age was 22. All but one of the 127 participants were attending MTI full-time and just over half of the students were employed at enrollment.

III. Evaluation Design

The main goal of this program evaluation was to collect information from a variety of sources to inform adjustments to the program and to estimate its overall effectiveness. This goal was addressed by conducting an implementation analysis as well as an analysis of program results in the form of participant outcomes.

MTI hired the BC Kuhn Evaluation Team in 2012 to conduct the program evaluation of the TED program. BC Kuhn conducted the evaluation until January 2016. TIE, Technology and Innovation in Education, was hired in February 2016 to complete the final report for the TED program. Annual and interim evaluation reports were created by BC Kuhn during the first three years of the program, and TIE has used those reports extensively to develop this final evaluation report.

The evaluation questions used to focus the implementation analysis are listed below and the first four represent a requirement for evaluation as included in the TAACCCT Round 2 Solicitation of Grant Applications. A fifth evaluation question was identified to help assess the growth in MTI's capacity with technical education at a distance. An analysis of data collected in response to these questions helped project leaders to document the successes and challenges MTI encountered when creating and operating the program.

1. How was the particular curriculum selected, used, and/or created?
2. How were programs and program designs improved or expanded using grant funds? What delivery methods were offered? What was the program administrative structure? What support services and other services were offered?
3. Was an in-depth assessment of participants' abilities, skills, and interests conducted to select participants into the grant funded programs? What assessment tools and processes were used? Who conducted the assessment? How were the assessment results used? Were the



assessment results useful in determining the appropriate program and course sequence for participants? Was career guidance provided, and if so, through what methods?

4. What contributions did each of the partners (employers, workforce system, other training providers and educators, philanthropic organizations, and others as applicable) make in terms of: 1) program design, 2) curriculum development, 3) recruitment, 4) training, 5) placement, 6) program management, 7) leveraging of resources, and 8) commitment to program sustainability? What factors contributed to partners' level of involvement in the program? Which contributions from partners were most critical to the success of the grant program? Which contributions from partners had more varying degrees of impact?
5. What contributions did the project make to the overall objectives of Mitchell Technical Institute and to the online delivery systems that will be used in the future?

A logic model was collaboratively created with program leaders and described how the TED program was designed to work (**Appendix G**). The model maps out the relationships among the program's inputs/resources, its main activities/interventions, the outputs derived from those activities, and the overall outcomes and impacts the program is striving for. It provides a "balcony view" of the program's design and goals.

A variety of methods were used to collect and analyze primarily qualitative data sources to assess the implementation of the program. Evaluators interviewed and surveyed a variety of stakeholders in the program including students, faculty, mentors, TED staff, and project partners. Two site visits were conducted each year and included observations of the instruction participants received at regional labs. Site visit schedules were developed collaboratively with program staff and regional lab mentors. A review of written documentation and of the program's nine deliverables contributed to the overall analysis of how the program was created, operated, and modified. A "Level of Implementation Matrix" was used to help program leaders evaluate progress and prioritize areas for future programming (**Appendix H**).

MTI's efforts to build the TED model involved a number of key components designed to increase its capacity to effectively deliver technical education at a distance. Consequently, capacity building was measured by the following indicators.

- Increased use of instructional technology
- Additional software tools for online classes



- Increased expertise by staff and faculty in the use of instructional technology
- Improvements in MTI technology infrastructure

Participant outcomes on nine required outcome measures were tracked by data provided by MTI and reported each year in the annual performance report. These outcomes track the number of participants served in the grant, completion and retention rates, employment and wage information, and numbers of participants furthering their education. The official descriptions for each measure are listed below.

1. Unique Participants Served/Enrolled
2. Total Number of Participants Who Have Completed a Grant-Funded Programs of Study
3. Total Number Still Retained in Their Programs of Study (or Other Grant-Funded Programs)
4. Total Number of Credit Hours Completed (aggregate across all enrollees)
5. Total Number of Earned Credentials (aggregate across all enrollees)
6. Total Number Pursuing Further Education After Program of Study Completion
7. Total Number Employed After Program of Study Completion
8. Total Number Retained in Employment After Program of Study Completion
9. Total Number of Those Employed at Enrollment Who Receive a Wage Increase Post-Enrollment

Performance on the outcome measures was tracked by *Jenzabar*, MTI's student information systems. The South Dakota Department of Labor supplied MTI with employment and wage data to assess performance on outcome measures # 8-10. These reliable data sources enabled MTI to complete required quarterly and annual reports accurately and on time. Evaluation questions to focus the analysis of the outcomes data are listed below.

- Which outcome measures met their targeted goals and which did not?
- Was the project equally effective for all participants?
- What components were the most effective?
- What significant unintended impacts did the project have?
- Is the project sustainable?



The original plan to assess program impact was to utilize a comparison group design. Data was to be collected on **three** different groups for comparison and analysis. Those groups were:

1. All program participants
2. An experimental group of participants who are enrolled in the TED SLPA program
3. A control group of participants enrolled in the on-campus SLPA program

Originally, program data was to be collected for both the control and experimental groups to help ascertain the extent of the program's impact on participant outcomes. A focus on demographic data was planned to help demonstrate how close or divergent the two groups were with respect to characteristics such as incumbent worker status, ethnicity/race, high school academic performance, disability status, veteran status, Pell-grant eligibility, and TAA eligibility.

The evaluation plan was later revised to be an outcomes-only study when the official definition of a "participant" was announced by the TAACCCT program in 2014 (**Appendix I**). For federal reporting purposes, TED utilized this definition of a participant, which includes those individuals who have entered or enrolled in a grant-funded (in- whole or in-part) program of study that leads to an industry recognized certificate or degree. A grant-funded program can include courses whose curriculum was modified using grant funds, courses which utilized equipment purchased by grant funds, and courses taught by instructors whose salary is paid for via grant funds.

This relatively broad definition considers both the TED-SLPA and the on-campus SLPA students as program participants. The definition, in effect, negated the use of the control group (on-campus SLPA students) as they had been receiving *some* exposure to the interventions being used in the TED program. From that point forward in the program, the on-campus SLPA students were required to be included in the count of participants and could no longer serve as a control group for the study.



IV. Implementation Findings

The required evaluation questions found the in the SGA form the basis on the implementation analysis. Each question is addressed below.

1. How was the particular curriculum selected, used, and/or created? How were programs and program designs improved or expanded using grant funds? What delivery methods were offered? What was the program administrative structure? What support services and other services were offered?

An instructional development team, comprised of a technical support technician, instructional media developer, SLPA instructional designer, curriculum coordinator and instructional strategist was hired to help instructors develop the TED-SLPA program and optimize online learning at MTI. The program was designed as a hybrid model incorporating a virtual classroom, face-to-face regional labs, and interactive technology to provide students with an engaging learning environment. Rigorous review of the curriculum was completed by SLPA advisory board along with a Subject Matter Expert (SME). An instructor was hired for the Geospatial/GST certification training. A curriculum was developed and piloted with students in the fall of 2014. This allowed for the validation of the certification program for Geospatial Technologies.

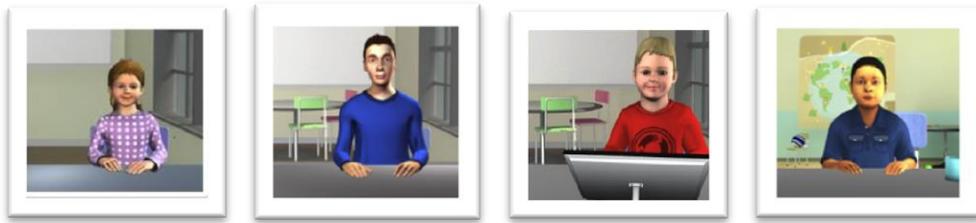
MTI developed a Virtual Classroom that could be used asynchronously to share instruction to include speech pathology scenarios and other instructional materials. The Virtual Classroom includes a variety of online and technology-enabled tools. These current technologies have enabled instructors to offer all the same instructional components that they offer their face-to-face students. The use of these technologies also gave the online students the feeling that they were not alone in their classes, thereby helping to retain a population that otherwise has a high attrition rate.

Examples of grant-funded technology tools and resources that allowed the hybrid model of the program to be delivered are described below.

SimuCase: Simulations were developed through *SimuCase* specifically for SLPA students. *SimuCase* is a set of computer simulated clients, or avatars, designed to teach clinical decision making skills in speech-language pathology. Four SPLA-specific simulations were developed by a team that already had a set of SLP specific simulations. These can be used repeatedly by students to test multiple outcomes from different strategies as well as practicing the recently



learned applications. The scope of work and case requirements were a joint effort between MTI and *SimuCase*. The four avatar clients are shown below.



Polycom Telepresence: The use of Polycom's "Telepresence" video-conferencing platform allowed advising meetings with remote online SLPA students. Screen sharing features allowed instructors and students to view grade reports, course needs, assignments, and materials simultaneously. As students had questions about assignments, they were able to "bring them to the instructor" as they would if they were face-to-face. Throughout the course of the grant, video-conferencing software advanced quickly. The current software being used in the TED program is Skype for Business.

Regional Labs blended the enhanced online learning with the technology and communication tools to create hands-on labs that bring students together from a defined geographic region. These regional labs gave students opportunities to practice and demonstrate technical skills with an experienced practitioner.

VoiceThread allows various media, such as voice, videos, documents and presentations to be used in asynchronous conversations. Feedback from students indicate that *VoiceThread* has been one of the most beneficial virtual classroom tools used in the TED-SLPA program.

An Academic Data and Financial Aid Specialist was hired to provide support for students in the program. This position assisted with financial aid, advising and maintaining current data. The *Jenzabar Recruitment and Retention* modules were added to the current student information system to better identify at risk students.

Online student and faculty manuals and a TED SLPA iPad handbook were developed to establish expectations and guidelines for the program and to ensure students were prepared for the hybrid learning experience. All manuals and guides were edited following each semester incorporating feedback from



staff and students. One of the student support resources, *SmartThinking* tutoring, was discontinued due to lack of use by students.

Mentors were hired for each of the students in the first year of the grant. Mentor logs and feedback from students were used in conjunction with ASHA guidelines and other mentor literature to create a written Mentor Handbook for subsequent years. One discovery made was the fact that not all students were receptive to having a mentor. Mentors are no longer mandatory but a linking students to mentors remains a goal of the program.

2. Was an in-depth assessment of participants' abilities, skills, and interests conducted to select participants into the grant funded programs? What assessment tools and processes were used? Who conducted the assessment? How were the assessment results used? Were the assessment results useful in determining the appropriate program and course sequence for participants? Was career guidance provided, and if so, through what methods?

Participants were required to have good reading, writing, hearing and communication (verbal, written and articulation) skills in order to be prepared to perform the job of a speech-language pathology assistant and to gain successful employment. They needed to also possess motor skills necessary to manage clients and manipulate therapy materials in home and school environments. As well, participants were required to have minimum scores on the English and Reading portions of the ACT or *AccuPlacer* exams, and pass a background check.

The Mitchell Technical Institute TED-SLPA program encouraged students to review their individual state licensing requirements for SLPA licensure/certification. It was the responsibility of the student to ensure that an Associate of Applied Science degree from Mitchell Technical Institute's SLPA program met the requirements of their state licensure board.

The goal of the TED-SLPA program was to prepare competent entry-level speech-language pathology assistants. To achieve that goal, students must have earned a grade of C (2.0) or higher in all technical courses as a prerequisite to SLPA 240: Clinical Fieldwork. Students were required to earn grade of C (2.0) or higher in their clinical fieldwork in order to successfully complete the program.

3. What contributions did each of the partners (employers, workforce system, other training providers and educators, philanthropic organizations, and others as applicable) make in terms of: 1) program design, 2) curriculum development, 3) recruitment, 4) training, 5) placement, 6)



program management, 7) leveraging of resources, and 8) commitment to program sustainability? What factors contributed to partners' level of involvement in the program? Which contributions from partners were most critical to the success of the grant program? Which contributions from partners had more varying degrees of impact?

Partners played an active role in the success of the grant. They provided assistance to TED-SLPA in varying capacities with recruiting local candidates. They also were active in supporting and encouraging those currently working for the organization to enroll and complete the program, including providing tuition assistance. Advisory council members actively recruited qualified SLPs to act as part-time adjunct faculty and mentors, assisted with curriculum development, and potentially employed program graduates.

The TED grant worked with higher education partners to develop latticing (transfer of credits from MTI to other institutions) and improve pathways for students to continue their post-secondary education in the SLP field. The South Dakota Department of Labor and Regulation assisted MTI by identifying unemployed or underemployed individuals, supplying NCRC testing support, offering employment connections for program graduates, and providing data collection services, including TED participant employment and wage data for reporting purposes.

4. What contributions did the project make to the overall objectives of Mitchell Technical Institute and to the online delivery systems that will be used in the future?

To meet the overarching goals of the TAACCCT program, the TED grant initially followed three objectives. Each objective also served to increase the capacity of MTI to address the demand for highly skilled workers, especially in rural areas, by delivering technical education at a distance. A fourth objective was added in year three to provide a Geospatial certificate course.

1. Create a robust hybrid infrastructure for Technical Education at a Distance (TED).
2. Develop and deliver course and program content for a beta—SLPA course.
3. Develop and deliver protocols for course and program student retention.
4. Develop and deliver course and program content for a beta—GST course.

Each of these objectives was addressed with a series of activities and deliverables. Listed below are the activities and their descriptions listed by objective. A set of findings is also offered for each activity.



Objective 1: Create a robust hybrid infrastructure for Technical Education at a Distance (TED).

As assessed by the Level of Implementation Matrix, the level of implementation for each activity in this objective is deemed to be at “full implementation”, meaning all activities have been implemented and are occurring regularly and with full participation.

Activity	Description	Findings
A1) Survey broadband site infrastructure	TED will examine the broadband infrastructure quality at MTI sites, employer partner facilities, and/or other service areas. This survey will ensure that broadband access and quality are sufficient to deliver program content. The target completion date for the initial survey was February 28, 2013. An ongoing assessment will be conducted to ensure system performance and stability, as well as capacity to add new technological components.	Implementation of the broadband infrastructure survey was completed by the end of year 1. TED management indicated the time required to review and test equipment, communicate with vendors and integrate equipment into existing infrastructure was more time intensive than anticipated.
A2) Purchase site communication equipment and other technology	Communications equipment and other technology will be procured to help establish the required technological infrastructure. The equipment was scheduled to be purchased by March 31, 2013.	A Grant Modification to purchase equipment over \$5,000 was requested and approved by the Department of Labor in November 2012. Technology equipment and software was installed by September 2013 and issued to faculty at the beginning of year 2. TED management indicated the time required to review and test equipment, communicate with vendors and integrate equipment into existing infrastructure was more time intensive than anticipated.
A3) Hire technical support personnel, project manager, and online instructor	MTI will recruit and hire a program manager, SLPA instructor, online enrollment advisor, and technical support/other staff. Personnel were scheduled to be hired by December 31, 2012.	All positions for the TED grant have been hired. The organization chart for MTI shows the grant-funded positions and their relationship to existing positions. (Appendix J)
A4) Establish fixed site video hub	TED will establish a fixed site video hub for the Telepresence system in a conference room/classroom on the MTI campus. The majority of the system’s hardware and software will be in this location, and the room will serve as the primary access point for the system. The space will be accessible to participants, instructors, mentors, or other staff. The target completion date is April 30, 2013.	The fixed site video hub was completed in September 2013. The site was available to participants, instructor, mentors and other staff. TED management indicate the time required to review and test equipment, communicate with vendors and integrate equipment into existing infrastructure was more time intensive than anticipated.
A5) Install and test the communications equipment	Online communications equipment will be installed at MTI sites, employer partner facilities, and/or other relevant sites. This equipment will ensure that program content is consistently accessible online to	Communications equipment was installed and tested by October 2013. There were ongoing technical issues that needed to be addressed by the vendor and were resolved by May 2014.



	TED-SLPA participants and staff. The target date for the equipment to be installed and operational is April 30, 2013.	TED management indicate the time required to review and test equipment, communicate with vendors and integrate equipment into existing infrastructure was more time intensive than anticipated.
A6) Develop, train staff in, and utilize telecommunication equipment standard operating procedures	TED will establish standard operating procedures (SOP) for the telecommunications equipment to inform all staff on how to properly utilize its components. This will include training. The target completion date for the development of (and initiation of training with) the SOPs is August 31, 2013. Training will be ongoing.	Development and revisions for the standard operating procedures (SOP) for the telecommunications equipment was ongoing throughout the grant as new software and equipment was implemented. The SOP was validated by Subject Matter Experts (SME).
A7) Establish regional representatives from among practicing Speech-Language Pathologists	TED management will recruit and hire part-time regional adjunct faculty (SLP certified individuals) to supply hands-on training that develops students' SLPA technical skills. These duties are largely completed in person at off-campus regional labs. Initial adjunct faculty positions will be filled by March 31, 2013. Implementation progress for regional labs is reported under A18.	Part-time regional adjunct faculty proved to be a strength of the program. Students are able to complete much of their work online but have an opportunity for monthly face-to-face interactions and labs at a regional lab site. Regional adjunct faculty were trained at the beginning of each school year and revisions were implemented based on their feedback. This portion of the program will be supported in the next school year even though grant funding is completed.
A8) Establish mentors	The TED-SLPA program will recruit and hire personnel to mentor program students. Mentors are positive role models who help students develop time management, organizational, and problem solving skills. They also offer personal support and advice, help students develop their interpersonal and communication skills, provide study assistance and support with online learning tools, and serve as a liaison with faculty. Mentoring positions will be initially filled by March 31, 2013.	Mentors were hired for each of the students in the first year of the grant. The mentor logs and feedback from students were used to create written mentor guidelines for subsequent years. One discovery was not all students were receptive to having a mentor so the mentor is not mandatory. A network of potential mentors has been built as a result of the grant. The future goal will be to link students and mentors.

Objective 2: Develop and deliver course and program content for a beta—SLPA course.

The level of implementation for each activity in this objective is deemed to be at “full implementation”, meaning all activities have been implemented and are occurring regularly with full participation.

Activity 13 exceeded the target of partial implementation.

Activity	Description	Findings
A9) Hire the Instructional Development Team	TED management will establish an Instructional Development Team, and hire the following personnel: technical support technician, instructional media developer, SLPA instructional designer, curriculum coordinator, and instructional strategist. Positions will be filled by June 30, 2013. A final deliverable for the program is the SLPA curriculum and course material. Final	Instructional development staff was hired in the first year.



	revisions will be completed by August 31, 2015 and third party review completed and the product delivered to the USDOL by March 31, 2016.	
A10) Begin marketing to and recruiting program participants	The TED program conducts marketing and other activities to recruit program participants. It focuses on individuals who are TAA-eligible, low-skilled, low-income, and/or living in remote rural and reservation-based areas. The TED-SLPA recruitment process may include, but is not limited to, advertising in schools; directly contacting paraprofessionals who work in an SLPA capacity, but have not yet attained any certifications in the field; and marketing through sources such as newspapers, radio, etc. TED-SLPA employer partners have also agreed to assist with recruiting local candidates. These individuals may, for example, work as para-educators in district/coop schools. Activities will begin December 31, 2012.	Recruitment efforts include mailings to TAA-eligible workers in SD, school districts and educational cooperatives. Presentations were made at South Dakota conferences that pertain to education. A print, radio, internet and TV campaign was also implemented.
A11) Coordinate instruction delivery with hybrid instructors & mentors	TED management will coordinate instructional delivery between full-time faculty and adjunct faculty. This includes course offerings, location, availability, etc. TED will also facilitate communication between full-time faculty and adjunct faculty members and mentors. Coordination (beginning December 31, 2012) will be ongoing.	Instruction delivery was coordinated with MTI and the mentors and adjuncts via teleconference and face-to-face meetings. Procedures were improved using lessons learned in previous semesters. Sustainment plans developed to continue the program delivery beyond the end of grant funded support.
A12) Develop interactive simulation case study technology	TED will develop and implement two or more SLPA case simulations. These will utilize interactive activities to help participants gain confidence and skill in assessing clients, as well as model techniques that can be utilized in various real- world scenarios. Development will begin January 1, 2013. Beta testing is scheduled to be completed by June 30, 2014, and a third party review by March 31, 2015. The anticipated completion date for the case study (deliverables forwarded to USDOL) is June 30, 2016.	Four virtual case studies were developed over the course of the grant. "Anna", "Ben", "Kyle", and "Jack". The case studies were beta tested by experienced speech-language pathologists. These case studies will be used beyond the period of the grant.
A13) Develop telepractice & Speech-Language Pathology Assistant interface protocol	TED management will develop and implement protocols for utilizing telepractice or other means to improve the collaboration between SLPs and SLPA's and extend SLPs' service reach. MTI and USD will form a study group and develop a SLPA Telepractice Protocol Whitepaper. The anticipated start date is August 31, 2013, final revisions/updates will be completed by August 31, 2015, and a third party review completed March 31, 2016. The deliverable is set to be forwarded to the USDOL June 30, 2016.	SLPA telepractice protocols were developed and reviewed. The telepractice protocols were used to deliver professional development workshops and advising meetings. A white-paper documenting the process was developed. MTI has developed regional expertise in telepractice and has held workshops for the state of South Dakota and schools. It has become the "go to agency" to provide training on telepractice on its use and implementation. (Appendix K)



	<p>A second component of this activity is the development of an SLPA Interface Whitepaper. This item will offer guidelines regarding the roles of SLPAs in South Dakota school settings. The anticipated start date is January 31, 2013, an interim draft will be completed by December 31, 2015, and a third party review completed March 31, 2016. The deliverable is set to be forwarded to the USDOL June 30, 2016.</p>	
<p>A14) Develop and begin utilizing virtual classroom technology</p>	<p>TED utilizes a variety of tools (see A2) to create a virtual environment that is informative, interactive, engaging, and supportive. As part of this, the program will develop a virtual classroom lab to assist with the delivery of instructional materials, including speech pathology scenarios. The initial target completion date for launch of the lab is September 30, 2013. By the end of the program, TED will submit a written document to the USDOL that offers guidelines on how other institutions can implement the broader virtual system. Materials developed with TAACCCT funds will be licensed with a Creative Commons Attribution License, facilitating open access.</p>	<p>Specific technologies and software were incorporated to create a virtual classroom to provide online and off-campus students access to the same tools that are available in the on-campus program. Activities and an online student guide were developed and refined. A white paper was produced detailing the process.</p>
<p>A15) Train & test for intermediate certifications</p>	<p>TED staff will provide training and testing opportunities for participants to attain intermediate certifications. These certifications are the National Career Readiness Certificate (NCRC) and the ETS ParaPro certification. Participants will have the option to begin taking these tests by December 31, 2012. Certification in first aid and CPR will also be completed.</p>	<p>Training and testing opportunities were provided to participants for the National Career Readiness Certification (NCRC), ParaProfessional certification and CPR and first aid certifications.</p>
<p>A16) Conduct third party evaluations</p>	<p>BC Kuhn will complete the third party evaluation, providing data collection (e.g., survey design and administration, interviews, and site visits), reporting (e.g., quarterly updates, annual evaluation reports, and a final summative evaluation report), and other services.</p>	<p>The third party evaluation reports for year 1, year 2 and year 3 were submitted by BC Kuhn. A change was made to a different 3rd party, TIE, for the final summative evaluation using the originally approved evaluation plan.</p>
<p>A17) Adjust strategies</p>	<p>TED management will adjust program strategies as necessary to ensure high quality implementation. This will occur throughout the funding period. Key items include internal evaluation activities (e.g., administering student surveys, soliciting teacher feedback and observations by mentors, and collecting student performance data) and meetings)</p>	<p>Program strategies were adjusted as the program evolved. The Geospatial/GST certification was added to the statement of work.</p>

Objective 3: Develop and deliver protocols for course and program student retention.

The level of implementation for each activity in this objective is deemed to be at “full implementation”, meaning all activities have been implemented and are occurring regularly with full participation.

Activity	Description	Findings
A18) Conduct student residency with regional learning labs	<p>This activity is comprised of two elements: coursework with regional learning labs and full-time on-site fieldwork opportunities. TED is establishing small learning communities comprised of participants who live in the same geographic region. Students meet at a regional lab and complete hands-on activities with their peers, under the direction of a certified adjunct faculty member. Students learn, for example, how to implement different screening and treatment procedures by observing simulations and practicing them with their peers. Adjunct faculty members model the exercises, directly observe and assess students at work, and provide feedback. Lab activities are graded components of specific courses, such as Introduction to Speech-Language Pathology Assistant (SLPA 101) and Introduction to Communication Disorders and Treatment (SLPA 111). The framework for activities is the same for all students, but the skills students learn are based on the courses they are enrolled in. Labs generally take place four times a semester. Students also participate in a series of courses that place them within educational settings (e.g., a PK-12 school, center for adults with clinical fieldwork component will begin by December 31, 2013).</p>	<p>Student residency was implemented with face-to-face regional labs and an online video SLPA program introduction. The virtual orientation provides students an opportunity to learn about the technology and features of the program without having to come to the MTI campus. The orientation process has been standardized and will continue beyond the TED grant.</p>
A19) Add retention/advising module	<p>TED will add the <i>Jenzabar</i> Recruitment and Retention Modules to the existing <i>Jenzabar</i> student information management system. The retention module will, for example, enable staff to identify students that may be at-risk for attrition, along with contributing factors. The recruitment manager will provide a suite of tools to reach and engage potential students. Modules will be ordered and in place by September 30, 2013.</p>	<p>The retention/advising module were implemented in Fall 2013. MTI worked with the vendor to rebuild the predictive model to better predict at-risk students.</p>
A20) Add online tutoring	<p>TED offers online tutoring sessions 24/7 via the <i>Smarthinking</i> system. The target date to begin offering this training is February 28, 2013.</p>	<p>The online tutoring service <i>Smarthinking</i> was implemented in 2013. <i>Smarthinking</i> software use was tracked. As a result of low usage, the service was discontinued. An online paper review software was implemented instead.</p>



A21) Cultural training	TED will provide annual cultural training sessions to participants to help prepare them for working with students and parents from diverse backgrounds. Content will focus on Native American cultures. Trainers will be contracted by June 30, 2013. Training will be offered by December 31, 2013 and implementation ongoing.	Cultural training sessions were held at Lower Brule Sioux Reservation in multiple years. In addition, students provided hearing screenings at Lower Brule tribal school to gain cultural understanding.
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Objective 4: Develop and deliver course and program content for a beta—GST course.

The level of implementation for each activity in this objective is deemed to be at “full implementation”, meaning all activities have been implemented and are occurring regularly with full participation.

Activity	Description	Findings
A22) Hire Geospatial/GST Instructor	TED management will recruit and hire a GST instructor to deliver the certification course. The position will be filled by August 25, 2014.	An instructor was hired for the certification course.
A23) Develop Geospatial Curriculum	TED will develop a 2-credit course that can be completed over a 17-week semester. The course will introduce students to basic GPS principles and industry applications, offer hands-on exercises with GPS devices and demonstrate how to collect and transmit data with them, and teach students how to utilize and analyze data in GST programs. Course completers will be awarded an industry recognized certification. The curriculum will be developed by August 25, 2014.	Curriculum was developed and piloted face-to-face with students from the Propane and Natural Gas program. Modifications and updates are ongoing as the curriculum is implemented.
A24) Deliver Geospatial Training	The TED-GST certification course will be pilot tested during the fall 2014 semester, on campus, with current MTI students. It is anticipated that South Dakota professionals will be able to participate at-distance in the future, as well as have the opportunity to earn a nationally recognized GST-related certificate.	The TED-GST certification course was pilot tested fall 2014. The pilot allowed validation of the certification. The certification program will continue without funding from the grant.



Deliverables

The TED-SLPA grant program produced eight program deliverables and the TED-GST component produced one. Each deliverable which was required to be reviewed by a Subject Matter Expert (SME) were reviewed using standardized rubrics (**Appendix L**). All deliverables have been completed by the March 31, 2016 deadline. Those that were required to be uploaded to the TAACCCT repository have been linked.

D1) Network Architectural Diagram	Network architecture diagram was completed by the MTI Office of Technology.
D2) Virtual Classroom protocol	The Virtual Classroom white paper has been completed and reviewed by the Subject Matter Expert (SME). The paper has been uploaded into the TAACCCT repository at www.skillscommons.org .
D3) TED model SLPA course curriculum	This deliverable consists of 17 courses from the SPLA program. All have been reviewed by a Subject Matter Expert (SME). SLPA 101 Introduction to SLPA SLPA 102 Clinical Observation I SLPA 103 Career Seminar SLPA 104 Anatomy/Physiology of Speech/Hearing SLPA 105 Speech & Language Development SLPA 106 Introduction to Phonetics SLPA 111 Introduction to Communication Disorders & Treatment SLPA 112 Child Growth and Development SLPA 120 Voice & Articulation for Effective Communication SLPA 200 Introduction to Audiology and Aural Rehabilitation SLPA 202 Clinical Observation II SLPA 210 Alternative & Augmentative Communication SLPA 211 Screening Processes SLPA 220 Speech Disorders and Intervention SLPA 230 Language Disorders and Intervention SLPA 235 Clinical Management & Procedures SLPA 240 Clinical Fieldwork
D4) <i>Simucase</i> SLPA case simulations	Speech-Language Pathology Assistant (SLPA) Simulations White Paper describing the implementation of patient simulation case studies reviewed by an SME and uploaded to the Skills Commons repository.
D5) Evaluation Reports	The annual evaluation reports have been filed. The final summative report will be filed in September 2016.
D6) Telepractice protocol/whitepaper	A Telepractice Protocol whitepaper was written and uploaded to document the best practices and experiences with the use of telepractice in the SLPA program.



D7) SLP/SLPA interface white paper	The Speech-Language Pathologist (SLP)/Speech-Language Pathology Assistant (SLPA) Interface white paper describing the relationship between a SLP and SPLA and to help establish the role for SLPA in South Dakota was reviewed by an SME and uploaded to the Skills Commons repository.
D8) TED model protocols & procedures	Procedures and protocols for all aspects of the TED program were developed, reviewed by an SME, and uploaded into the Skills Commons repository. The document for this deliverable is the culmination of the TED project. Technical Education at a Distance (TED) White Paper
D9) Geospatial/GIS Certificate	Curriculum for Geospatial/GIS certificate for utility, telecom, and energy technicians was designed and reviewed by an SME. The Introduction to GPS/GIS Technologies includes the course in IMSCC format and a course outline. The curriculum was uploaded into the Skills Commons repository.

MTI's creation and operation of the TED model for the Speech-Language Pathology Assistant students led to the following achievements:

1. Off-campus students seamlessly received student services online for access to financial services, tutoring, email, institutional announcements, course registration, peer interaction, etc.
2. Instructors are industry experts (speech-language pathologists) that taught online with institutional training and support.
3. Program specific regional labs conducted by practicing Speech-Language Pathologists and local mentors were utilized to establish hands-on mastery, while the greatest part of the program was delivered through highly interactive online classes using industry standard best practices.
4. The use of two-way audio/video "telepractice" is a viable tool for delivery of speech-language services, SLPA supervision, and program instruction.
5. Mitchell Technical Institute provided students with high quality, industry partnered access to achieve their A.A.S. degree while living their lives in their home communities.
6. Over eighty percent of program participants found employment in a related field after graduation from the program.



V. Participant Impacts and Outcomes

The performance outcomes for the entire duration of the TED grant are shown in **Appendix M**. Outcome measures for year 1 include only the TED-SLPA students. Outcome measures for the second, third, and fourth year include TED-SLPA students, on-campus SLPA students, and students in the Geospatial (GST) courses. On-campus SLPA students, originally designated to be the control group for the grant, were included in the participant count after the official definition of “participant” was disseminated by TAACCCT in August 2014. MTI obtained approval to add the GST program in February 2014. GST students were counted as participants beginning in year two as enrollment in those courses began in August 2014.

An analysis of participant outcomes for the grant is guided by the following five questions.

1. Which outcome measures met their targeted goals and which did not?
2. Was the project equally effective for all participants?
3. What components were the most effective?
4. What significant unintended impacts did the project have?
 - a. General improvement in all online programs
 - b. Staff taught other online instructors how to use the new online tools
 - c. Applicability of digital tools to even F2F learning environments
 - d. Continued growth and expansion of GST
5. Is the project sustainable?

1. Which outcome measures met their targeted goals and which did not?

MTI met its targeted goal for all outcome measures except outcome measure # 9, which reports the number of participants retained in employment in the second and third quarters after program completion. Due to a waiting period to acquire employment data from the South Dakota Department of Labor and Regulation of up to six months, it is possible that the target for outcome measure # 9 will be met, once that data is available. It is important to note that the original targets for each outcome measure were increased for years two and three, as part of the modification request to add the GST program to the grant’s Statement of Work. (**Appendix N**)



2. Was the project equally effective for all participants?

According to the student survey results from the three years of the project, perspectives about the benefits of the TED program were positive, but mixed, as shown in the table below. It is important to note that no students responded to the question negatively and the percentage who felt the online courses were very beneficial increased in each year of the project.

Q. How beneficial do you find TED's online learning courses?						
Year	5 Very Beneficial	4	3 Neutral	2	1 Not Beneficial	NA
2013 n=8	38%	38%	24%	0	0	0
2014 n=25	52%	44%	4%	0	0	0
2015 n=10	80%	10%	10%	0	0	0

3. What components were the most effective?

An examination of student survey results reveals that students found the most effective components of the TED model to be the regional labs where they met for face-to-face instruction and practice with mentors and the use of *VoiceThread*, an online tool which facilitates interaction among students, their classmates, and the instructors. Students also gave high ratings to the sufficiency of technical support necessary to engage with the technological components of the program. The tables below show the strong, positive response by students to these three components.

Q. Overall, how beneficial are (or were) the labs?						
Year	5 Extremely Beneficial	4	3 Somewhat Beneficial	2	1 Not Beneficial	NA
2013	Question was not asked on the 2012-13 student survey.					
2014 n=25	50%	29%	17%	0	0	4%
2015 n=10	40%	30%	10%	0	0	20%



Q. How beneficial have the <i>VoiceThreads</i> been for you?							
Year	5 Extremely Beneficial	4	3 Somewhat Beneficial	2	1 Not Beneficial	Don't Know	NA
2013	Question was not asked on the 2012-13 survey.						
2014 n=25	24%	52%	16%	4%	4%	0	0
2015 n=11	9%	55%	18%	0	0	9%	9%

Q. Was there sufficient technical support for utilizing the technological components?			
Year	Yes	No	NA
2013	Question was not asked on the 2012-13 survey.		
2014 n=25	96%	0	4%
2015 n=10	80%	10%	10%
2015 (GST) n=11	82%	18%	0

4. What significant unintended impacts did the project have?

The lessons learned from the TED project has led to general improvement in MTI’s other online programs. From technology tools to curriculum simulations to student support systems, the TED project’s “recipe” for success continues to be an important design element for other online programs. Staff involved in the TED project have freely “tutored” colleagues in the use of new online tools. Some of the tools used asynchronously in online environments have also been found to be beneficial when used synchronously in face-to-face courses. The early success of the GST courses is generating more interest in, and expansion of, the GST program at MTI, including the addition of an AAS option when coupled with one of several other one year programs and additional general education courses.

5. Is the project sustainable?

Sustainability was a long-term focus for MTI as it made short-term decisions regarding the development and implementation of the TED model of distance education. MTI reports enrollment numbers each year to the state of South Dakota and its advisory councils. The sustainability of maintaining the on-campus SLPA program as well as the TED-SLPA program has yet to be



determined. One possibility for sustainment involves merging the two programs together into one, hybrid SLPA program.

The Geospatial Technologies (GST) component of the grant has gained momentum from its original two courses, and is now being offered as a nine-month program resulting in a diploma. Sustainment of the GST diploma program will also depend on future enrollment, the feasibility of “stacking and latticing” it with other programs, the input of its advisory council, and the ongoing employment needs of industry.

VI. Conclusion

The first goal of the TAACCCT program is to **increase the number of individuals earning credentials including degrees, diplomas and other certifications.** MTI’s TED program resulted in 142 individuals completing a grant-funded program of study. Those individuals earned a total of 189 credentials in the fields of Speech-Language Pathology Assistant or Geospatial Technologies. Some students earned more than one certification, including the National Career Readiness Certificate (NCRC) and ParaPro certification from the Educational Testing Service (ETS).

The TAACCCT program’s second goal challenges grant recipients to **introduce innovative and effective methods for curriculum development and delivery that address industry needs and lead to improved learning outcomes and retention rates.** The TED program successfully accomplished its objectives to create a robust hybrid infrastructure to support technical education at a distance and applied it to the SLPA program, a high-needs field in rural areas. MTI also created two beta courses to help address workforce needs in the area Geospatial Technologies, an emerging skill set needed in many technical fields. A series of Deliverables were developed which document and disseminate the best practices and innovations evolving from the grant for other schools to replicate in order to deliver technical education at a distance.

The third goal of TAACCCT programs calls for **improving employment outcomes for individuals with these new technical credentials.** Previous rounds of TAACCCT grants in South Dakota helped to establish a strong working relationship among the state’s four technical institutes and the South Dakota



Department of Labor and Regulation. Employment data on graduates of grant-funded projects were reported to MTI in each of the four years of the project. Employment data reported through March 2016 shows that 84 people received a wage increase following their completion of a grant funded program of study. A review of MTI's placement reports from 2012-2015 shows that 100% of SLPA graduates were employed and, on average, 75% are working as Speech-Language Pathology Assistants (**Appendix O**).

MTI's institutional capacity was improved as a result of this grant. Its technology infrastructure was improved to facilitate distance delivery of education including interactive lectures and simulations with computer generated "clients". Although the time to establish a robust infrastructure which was compatible with MTI's learning management system and various digital applications was underestimated by program leaders, it was a critical factor in the success of the TED model. Through the TED project, MTI has become a leader in South Dakota regarding telepractice, providing training for practicing speech professionals across the state.

An enrollment dip occurred in the TED-SLPA program during the third year of the project from 20 students to 16. Anecdotal data point to the rigor of the program and the fact that some potential students were unfamiliar with a career as a Speech-Language Pathology Assistant and/or don't consider it as a lucrative career option. Enrollment in the TED-SLPA program could increase as the 2020 deadline for mandated certification for SLPAs in South Dakota draws closer.

The TED model is an important resource for addressing the needs of rural America. Initial reports for May 2015 graduates indicate they are taking jobs in many rural and remote locations that typically have difficulty in hiring qualified Speech-Language Pathology Assistants (SLPA). These locations in South Dakota include high needs schools on Indian reservations as well as other isolated parts of the state. The GIS certification training added to the TED project in the third year is also addressing employment needs in rural areas, especially in the utilities industry. Feedback from employers of recent graduates of MTI indicates that GIS certification gives these graduates a competitive edge during the hiring process.

MTI created and managed a successful model of distance education which included an effective recipe of technology applications, face-to-face practice, mentoring, and content relevant to today's workforce. The TED model received well-deserved recognition along the way in the form of the 2015 Academic Leaders Tool of the Year award from the Western Alliance of Community College Academic Leaders (**Appendix P**). The TED model, and its application to technical fields beyond Speech-Language Pathology Assistant, certainly warrants further research and funding.



VII. References

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