



Scope of Work

September 1, 2008 – August 31, 2011
Project Years 1, 2, and 3
Colorado ATE Partnership (CATEP)
National Science Foundation DUE #0802439

Three-Year Project Evaluation and Faculty Development Overview

SCATE Inc., a 501(c)(3), not-for-profit corporation affiliated with the South Carolina ATE (SC ATE) Center of Excellence, Florence-Darlington Technical College, Florence, South Carolina, will serve as the external evaluator for this project and will provide one segment of faculty development for the project. The evaluator will conduct formative and summative evaluation. SCATE Inc. will use a participatory approach in the evaluation of this project, partnering from the beginning with project management to assist in devising outcome measures, data requirements, and assessment methods consistent with project activities that have been funded by the National Science Foundation.

Formative evaluation: The evaluator will work closely with the principal investigator to periodically measure the extent to which the project is staying on target to accomplish five major goals:

1. Strengthening the participating colleges' CIS introductory curriculum and associated Career and Technical Education (CTE) courses through the integration of employability skills with technical skills;
2. Transforming the recruitment, curriculum and pedagogical practices employed in CIS and CTE courses;
3. Addressing industry needs beyond basic IT skills;
4. Developing an ongoing evaluation program; and,
5. Developing and dissemination plan.

Project activities and deliverables will be assessed on a continuing basis. The evaluator will compile and present an annual assessment of progress toward project objectives and outcomes achievement. Research questions related to the project's intended outcomes will direct data collection and analysis and research findings will inform and encourage improved practice.

Summative evaluation: The summative evaluation will focus on documenting completion and impact of project activities and the extent to which the following objectives are met.

1. CATEP has infused into current CIS/CTE curriculum the set of employability skills needed by the ICT workforce in the region's high-growth industries.
2. CATEP has expanded knowledge of secondary counselors in participating institutions and recruiters/advisors at partnering community colleges with regard to change in introductory CIS curriculum and need for IT workers to have specialization in a disciplinary domain.
3. CATEP has built a recruitment pipeline for students entering the rejuvenated CIS programs.
4. CATEP has developed and implemented internal and external educational experiences that include problem-based and collaborative learning driven by real-world problems faced by the region's high-growth industries.
5. CATEP has surveyed high-growth industry businesses in the respective colleges' regions regarding the skills (beyond basic IT skills) needed by their incumbent ICT workers.
6. CATEP has provided learning experiences to equip students with the higher-order skills and attributes that industry needs for their IT-enabled workforce of incumbent workers.
7. CATEP has advanced technician education in the region through the development of a model for Information and Communications Technology (ICT) that is responsive to the workforce development needs of the region's high-growth industries.
8. CATEP has conveyed the project design and results of project assessment to all community colleges in the state and to secondary schools with CTE programs.

Working closely with the principal investigator and project management personnel, evaluation data will be defined and collection processes determined (e.g., through surveys, interviews –both personal and electronic, small focus groups of faculty, administrators, partner institutions, industry partners, and students). Results will be analyzed and documented in terms of measurable changes and other impact in curriculum offerings, improvement in student critical thinking and problem-solving skills, and productive, collaborative partnerships with industry that provide meaningful mentoring and support to students enrolled in the project.

The goal of faculty development in the project is to inspire and equip faculty to use teaching methodologies that have been proven to increase learning and infuse employability skills. The component of faculty development that will be provided by SCATE Inc. will support this goal by using the *Getting Results* program or by building on the strategies and concepts of this faculty development experience. The actual activity will be adapted or customized for the project to take into consideration other faculty development activities that participants have completed. Scheduling of the activity will be set in collaboration with project Principal Investigators.

Table: Evaluation Activities and Performance Measures (Three-year project)



**Evaluation Matrix
The Colorado Advanced Technological Education Partnership Project**

Evaluation Questions	Evidence/Data Collection	Methodologies
<p>To what extent have students demonstrated gains in knowledge of the employability skills necessary to become successful as Information and Communications Technology professionals?</p>	<ul style="list-style-type: none"> -Pre-test of current knowledge levels (baseline data) based on the region's common set of employability skills. -Documentation of teaching/learning activities designed to increase student knowledge of required skills. -Post-test results of student knowledge of required skills. 	<ul style="list-style-type: none"> -Establish baseline -Review course descriptions and other documentation demonstrating the infusion of employability skills into courses or other student learning activities -Analyze pre- and post-test results to determine change in student knowledge
<p>To what degree has the teaching/learning environment of participating Information and Communications Technology programs been transformed to include problem-based and collaborative learning driven by real-world, industry-based problems?</p>	<ul style="list-style-type: none"> -Course syllabi and learning activities before intervention -Course syllabi and learning activities after intervention -Faculty surveys focused on teaching methodologies -Student performance data -Industry advisory board notes/feedback 	<ul style="list-style-type: none"> -Review course syllabi and learning activities to document changes -Analyze faculty surveys to determine change in instructional practice -Analyze surveys to determine faculty commitment to implementing and sustaining new teaching practices. -Analyze student performance data -Review advisory board feedback
<p>To what degree are employer-defined needs for incumbent worker training to meet current Information and Communications Technology employability skills been addressed by a new course offered at participating institutions?</p>	<ul style="list-style-type: none"> -Employer surveys -Course syllabi for new courses developed -Pre-test of incumbent workers enrolled in course -Post-test of incumbent workers enrolled in course 	<ul style="list-style-type: none"> -Review of new course syllabi -Analysis of employer surveys -Analysis of pre- and post-test results for incumbent workers enrolled in new course.

Evaluation Questions	Evidence/Data Collection	Methodologies
<p>-To what extent have secondary and postsecondary students who expressed an interest in an Information and Communications Technology Career participated in job shadowing and/or internships?</p> <p>-To what extent have counselors/advisors at project and partnering educational institutions become aware of the knowledge and employability skills needed for technician careers in Information and Communications Technology?</p>	<p>-Roster of students expressing interest in Information and Communications Technology careers</p> <p>-Roster of students participating in job shadowing</p> <p>-Roster of students participating in internships</p> <p>-Roster of counselors/advisors participating in project provided workshops</p> <p>-Survey of participating students</p> <p>-Agenda for workshops</p> <p>-Pre- and Post-workshop assessments for participating counselors/advisors</p>	<p>-Analysis of student participation rates</p> <p>-Analysis of student surveys</p> <p>-Review of workshop agenda for content and alignment with employer-defined skills</p> <p>-Analysis of pre- and post-workshop assessments for counselors/advisors</p>
<p>-To what extent has an evaluation process been implemented to inform the project and assess impact on students, counselors/advisors, incumbent workers, and regional Information and Communications Technology employers?</p> <p>-To what extent have evaluation processes been institutionalized to provide on-going feedback and continuous quality improvement?</p>	<p>-Evaluation plan</p> <p>-Evaluation reports and project responses</p> <p>-Focus group or interview feedback</p>	<p>-Annual review of evaluation plan for utility to project</p> <p>-Analysis of project response to evaluation feedback</p> <p>-Determination of participant and partner commitment to sustaining evaluation and program improvement</p>