

Best Practices from the CCTA: Centers Collaborative for Technical Assistance

The National Science Foundation's Advanced Technological Education (NSF ATE) program focuses on the education of technicians for the high-tech fields that drive the nation's economy. The faculty members of community colleges, which are the main source of technician education in the United States, have leadership roles in the initiatives that involve partnerships with industry and other educators. Since 1994, NSF ATE initiatives have developed a wide-range of innovations to better serve students and inform educators.

Five NSF ATE centers formed the Centers Collaborative for Technical Assistance (CCTA) in response to a Department of Labor request to NSF for technical assistance services to recipients of Trade Adjustment Assistance Community College and Career Training grants. The five centers are National Center for Convergence Technology (CTC), South Carolina ATE National Resource Center (SCATE), Florida Advanced Technological Education Center (FLATE), Bio-Link National Center (Bio-Link) and Maricopa Advanced Technological Education Center (MATEC). The identification and sharing of NSF ATE best practices are among the services CCTA offers.

BRIDGE LEARNING COMMUNITIES ADDRESS SKILLS GAPS

Bridge Learning Communities provide an entryway to technical training for STEM careers, strengthening the basic language and math skills needed for employment in these fields. These innovative approaches address skills gaps by contextualizing basic skills within relevant career-specific training and help students succeed in college-level courses at higher rates than traditional remedial math and English courses do.

WHAT THEY DO

Bridge Learning Communities

- infuse academic courses with basic skills lessons and career-relevant content;
- move students in cohorts through coordinated course sequences to encourage peer support of students' academic and career goals;
- offer professional development activities to students such as career exploration and work-based learning opportunities;
- cultivate job preparation skills with mock interviews and with workshops on writing resumes and cover letters;
- provide non-academic support services such as financial aid resources, disability assessments, and program-specific counseling; and
- connect students to other college and community resources.



BIO-LINK PROMOTES BRIDGE LEARNING COMMUNITIES CONCEPT

Bio-Link promoted the Bridge to Biosciences program as a two-semester program at the City College of San Francisco. In addition to three integrated courses that reinforce a rigorous introduction to biotechnology with basic language and math skills, the program has three additional courses that focus on job preparation with career exploration and internship opportunities. Completers receive biotechnology laboratory assistant certificates.

During a five-year period, retention in the program and persistence in college after students completed the Bridge program improved significantly. Students who completed the Bridge program went on to pass gateway courses at a higher rate, compared to non-Bridge students. Of the 161 students who enrolled in the semester-long Bridge internship, 88% successfully completed it along with the program's capstone internship course.

"I come from cleaning houses and businesses to now a job where among the things I do contributes to biofuel alternatives. It's like my life is changed in a big way in a very short time."

JAMES HORSTMAN

**BRIDGE TO BIOSCIENCE CERTIFICATE COMPLETER
RESEARCH LAB TECHNICIAN, US DEPARTMENT OF AGRICULTURE**

BRIDGE LEARNING COMMUNITIES LINK LEARNING TO CAREER PATH STEPS

Other hallmarks of Bridge Learning Communities are the various ways that they correlate learning milestones into established steps along career pathways. These attributes help students envision themselves in STEM careers and provide employers with evidence of students' skills and knowledge.

Bridge Learning Community attributes include

- stackable certificates;
- project-based assessments; and
- academic degrees that prepare students for industry certification exams.



PROMISING RESULTS FROM BRIDGE LEARNING COMMUNITIES

LaGuardia Community College's **GED Bridge** program reports promising results from contextualizing healthcare and business career information. GED Bridge course completion rates were significantly better than the traditional GED prep course completion rates. GED Bridge students passed the GED exam and enrolled in college at much higher rates compared to students in the traditional GED prep course.

The **Integrated Basic Education and Skills Training (I-BEST)** programs offered at eight Washington colleges improved student outcomes by having a basic skills instructor and an academic instructor teach each group of students. Research has shown that the benefits of the I-BEST program approximately equal the additional costs incurred by the program.

Contra Costa College structured its **Bridge to Biotech** program to support students' pursuit of three career paths. In addition to math, English, and counseling, two biotech courses may be used toward a biotech certificate, a biology degree, or prerequisites for an allied health degree.

The skills that students learn in the Communication for Lab Sciences course, which is part of Athens Technical College's **Bridge to Bioscience program**, carry over into improved performance in other courses; some students have used their lab notebook maintenance knowledge to obtain part-time jobs while they complete their degrees.

CCTA

CENTERS COLLABORATIVE FOR TECHNICAL ASSISTANCE

For more information, contact:

Christina Titus, Program Director at ctitus@collin.edu or 972.377.1786
Ann Beheler, PI at abeheler@collin.edu or 972.377.1649

This material is based upon work supported by the National Science Foundation under Grant No. 1205077. Any opinions, findings and conclusions or recommendations expressed in this material are those of the author(s) and do not necessarily reflect the views of the National Science Foundation.

