

Arapahoe Community College

Case Study Report – Data as of May 2013

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INTRODUCTION

In 2011, Colorado received a \$17.3 million Trade Adjustment Assistance Community College and Career Training (TAACCCT) grant from the U.S. Department of Labor. The grant-funded project—the Colorado Online Energy Training Consortium (COETC)—has two principal purposes: 1) enhance the state’s energy-related programming by transforming curricula into more accessible formats using technology and mobile learning labs, and 2) develop and implement a redesign of the state’s developmental education (DE) program. Project goals include expanding access to degree and certificate programs in energy-related fields, increasing retention and completion of certificate and degree programs at the community college level, and developing a trained workforce for the changing job market.

The COETC project involves the thirteen colleges in the Colorado Community College System (CCCS) and two local district colleges, Aims Community College (Aims) and Colorado Mountain College (CMC).

CCCS contracted with Rutgers School of Management and Labor Relations (Rutgers) to be the COETC third-party evaluator. In this role, the Rutgers team created and implemented a multi-faceted research assessment design that includes quantitative and qualitative data collection and analysis.

A major component of Rutgers’ COETC evaluation is a cohort study that compares the educational outcomes for students enrolled in traditional courses to those for students enrolled in COETC-developed and funded courses. In particular, this research focuses on COETC’s second goal as described above. The study’s ultimate objective is to assess the success of DE courses restructured under the guidelines of the Colorado State Task Force on Developmental Education Redesigns (State Task Force) and the success of the redesigned energy courses at the seven participating energy colleges. Specifically, it will evaluate the impact of factors such as demographics, Accuplacer scores, course registrations, student grades, employment status, and wages on rates of retention, program completion, and employment after graduation. The methodology consists of quantitative analyses of student and course data from Fall 2011 through Spring 2014 along with qualitative analyses of student experiences.

Toward the end of the Spring 2013 semester, Rutgers distributed four reports covering the study data collected to date from individual colleges and the consortium as a whole: “Integrated Year End Report,” “Career Coach Caseloads Analysis,” “Redesigned Course Outcomes,” and “Master Course List.” This case study provides an interim report, based on data provided in these reports, on the progress to date of Arapahoe Community College (ACC) under the COETC grant as of May 2013.

The sections that follow 1) outline the overall study methodology and data sources, 2) provide background information on ACC and its student population, 3) summarize the goals and primary elements of ACC’s COETC program, 4) describe the redesigned DE courses (math and

English/reading) and present data on enrollment and outcomes, 5) assess the success of the career coaching program instituted by ACC as part of its COETC program, and 6) conclude with recommendations for ACC specifically and for the consortium colleges in general with regard to their COETC-funded programs.

METHODOLOGY/DATA SOURCES

Quantitative Analysis

During the first project year, Rutgers worked closely with CCCS to refine the quarterly reports required from each of the system's participating colleges. Rutgers has used data from these reports to track progress and to provide the foundation for other data collection. In collaboration with CCCS, the district colleges, and college career coaches, Rutgers developed and revised an Electronic Student Case File (ESCF) to capture data relating to the COETC career coaches' work with grant-eligible students. (The ESCF records demographic and academic information and tracks the issues and goals coaches and students work on and any referrals made.) In addition, Rutgers designed a pre-course survey to collect information on student expectations about course work and career goals. The colleges administered this survey to students in traditional and redesigned DE courses in Fall 2012.

The Rutgers team has also been working closely with CCCS and the district colleges to access the Banner student system (and CMC's data system) to track student progress and achievement and to collect and analyze data for the cohort study.

Qualitative Analysis

Rutgers' qualitative evaluation focuses on COETC process issues and the experiences of project team members and participating students, faculty, and staff at the 15 colleges in the COETC consortium.

As part of this analysis, team members reviewed relevant documents, text answers from quarterly reports, ESCFs, pre-course survey results, and materials and websites developed by the State Task Force, CCCS, and/or individual colleges. Rutgers team members have conducted phone and in-person interviews with project leads, faculty involved in the restructuring and/or teaching of DE and energy courses, instructional designers, data coordinators, senior college administrators, and, whenever possible, students. We conducted on-site interviews at ACC on April 9, 2013. The team members have analyzed transcriptions of phone and in-person interviews to identify program achievements to date, best practices, and critical issues for follow-up.

Rutgers team members have also participated in conference calls with project leads and career coaches and joined in webinars. In addition, they have observed and participated in forums sponsored by CCCS, such as sessions on DE redesigns.

COLLEGE DESCRIPTION AND OVERVIEW OF STUDENT POPULATION

ACC was the first community college established in the Denver metro area. It was originally called Arapahoe Junior College and then joined CCCS as Arapahoe Community College in 1970. ACC has three nonresidential campuses, one in Littleton (main), one in Castle Rock, and one in Parker. It offers nearly 100 degree and certificate programs from its 51-acre campus in Littleton and the satellite campuses that range from nursing and emergency medical services to law enforcement. ACC also houses Colorado's largest police academy.

In Fall 2013, 9,778 students attended ACC. Of these students, 80.4 percent are seeking degrees, with the average student taking 7.8 credit hours per semester. Just over three-quarters of students at ACC are enrolled part-time. Demographically, the majority of students report as White (72.4 percent) followed by Hispanic/Latino (11.7 percent). Approximately 58.4 percent of students are female. Most students attending ACC are continuing their education (42.6 percent). New students, including transfers, comprise 30.6 percent of the population.

ACC'S COETC GOALS AND PRIMARY PROGRAM ELEMENTS

In its redesign, ACC has focused on strengthening online and technology-enabled learning, accelerating developmental education for low-skilled workers, and improving retention and time to completion for students who test into DE courses. Like other CCCS colleges, ACC is working to redesign developmental education in stages. Phase I, which began in 2010, concentrated on DE acceleration and included the implementation of a FLEX lab program for individualized instruction. In Phase II, ACC is expanding its DE redesign activities under the COETC grant. In Phase III, it will focus on meeting the State Task Force curriculum recommendations. This report examines some of the Phase I work but focuses primarily on Phase II.

As mentioned above, for the COETC grant in Phase I ACC continued its English and math FLEX lab implementation. In these labs, students work with faculty members and tutors to create individualized learning plans—fitted to their skill level and educational goals—to complete the DE sequence, most often at an accelerated pace.

In addition to the FLEX labs, ACC offered Advanced Academic Achievement (AAA 109) as a required co-requisite for students placed into REA 060. The course teaches students about career planning, personal management, critical thinking, and other soft and life skills that can enhance their overall academic success. ACC created this course to improve student DE sequence success rates. The class, along with ACC's career coaching services (discussed in more detail below), focuses on helping eligible students plot out their future academic and employment paths. In the initial COETC proposal, ACC also committed to purchasing career-planning software as an additional aid to help students plan careers as well as obtain internships and job placements.

ACC developed all these strategies with the overall goal of reducing time to completion and improving retention for DE students.

ACC'S REDESIGNED DE PROGRAM

As noted, ACC's COETC efforts have concentrated on helping students move more quickly through the DE sequence into college-level coursework through changes to academic courses and to life, work, and soft skill development programs. In this section, we describe ACC's redesign of English, reading, and math courses and the outcomes for these courses.

ACC's English/Reading Redesign

ACC reconfigured four English and reading courses during its Phase II DE redesign. ACC also explored the methods described below as part of its effort to improve developmental education.

English/Reading Innovative Models and Practices

Assisting with Professional Development. In October 2012, ACC used funding from the grant to arrange a professional development day for full-time and adjunct faculty who teach college-prep and/or DE classes. During this event, ACC updated faculty members on the State Task Force's work and on the expected changes to developmental education going forward.

Implementing FLEX Labs. During Phase II, the English faculty introduced the FLEX lab option to students in developmental English courses. The FLEX lab approach, which is also used for math students, helps students develop individualized, self-motivated, self-paced learning plans for the DE sequence that can accelerate completion. When placing into the 060 or 090 levels, students can also enroll in the FLEX lab course. As the semester starts, each student meets with a faculty instructor to discuss his or her plans and goals for the term. Students must be physically present in the lab for two hours per week for individualized learning or to work on peer review projects. By the end of the semester, students also must put together a portfolio, including a college-level essay, that displays their readiness to move onto the next level of English coursework.

Networking with Other Departments. To enhance the English/reading developmental curriculum, ACC's English faculty is working with other departments to better understand the most important skills students need to succeed in college-level courses. This cross-department communication also helps the English developmental or "college-prep" teachers identify what skills and attributes students are missing.

English/Reading Redesign Challenges

Student Difficulties with Accelerated Courses. While ACC's English faculty is excited about the FLEX lab method's potential, some members have concerns over whether all students can succeed in this accelerated model. Some teachers suggested that ACC might want to provide an alternative for those students unable to cope with the faster-paced, individualized DE sequence.

Faculty Problems Adjusting to Paradigm Shift. ACC's full-time and adjunct faculty face a paradigm shift as the redesign focuses on providing students with the basic skills and confidence they need to achieve academic goals rather than approaching DE students as before as individuals that need to be "fixed." Adjusting to this shift may present a challenge for some teachers.

ACC's Math Redesign

During the 2011-12 academic year, 60.1 percent (46,913) of students in DE courses across Colorado were enrolled in math courses compared to 25.9 percent (20,243) in English and 13.1 percent (10,877) in reading.¹ It has been a challenge for colleges to serve the high volume of students requiring one or more developmental math courses and to identify methods to encourage successful progress through the developmental pathway. In response to this issue, the State Task Force determined that liberal arts and algebra pathways require different levels of math proficiency. As such, they separated developmental math into two pathways: one for students interested in pursuing degrees and careers dependent on higher level math proficiency, and one for students interested in degrees or fields that are not math dependent.

As an initial step to the mandatory curriculum redesign, ACC restructured four math courses: Compressed Pre-Algebra w/ Basic Math (MAT 045), Compressed Introductory/Intermediate Algebra (MAT 095), Intermediate Algebra (MAT 099), and College Algebra: MA1 (MAT 121).

Math Redesign Innovative Models and Practices

Instituting Combination Courses. ACC's Phase I math redesign involved developing methods to compress and accelerate DE coursework. Within that period, the Math Department offered combinations of MAT 030 and 060, MAT 060 and 090, and MAT 090 and 099. For the one-semester 030/060 combination, for example, students spent five weeks on the 030 curriculum followed by ten weeks on the 060 curriculum. Thus students could complete two math DE courses in one semester as opposed to one course in the same time period.

Implementing Flex Labs. Like English and reading students, ACC's DE math students can enroll in FLEX lab classes to help speed their completion of DE requirements. The labs provide instructors, tutors, and computers. Students can come in and work on unit coursework at their own pace. Each unit requires six hours of in-person attendance and can take anywhere from

¹ See CCCS (May 2013), Academic Year 2011-12 Remedial Enrollment and Course Completion Rates [<http://www.cccs.edu/Docs/Research/AY2012RemedialReport.pdf>]

three to five weeks to finish depending on the course. Students can finish assignments in class or at home, which provides flexibility for students with challenging schedules. When students register for the Flex lab course, they are assigned a specific instructor. That teacher communicates with the student regarding the class, establishes deadlines, and grades assignments and tests. At the same time, students choose which day of the week their assignments will be due and their tests will be taken.

Creating Professional Teaching Communities. As part of its DE curriculum redesign program, ACC has implemented “professional teaching communities” as a way for full-time and adjunct faculty to help each other develop best practices for teaching the new math courses. ACC instituted this concept when it added MAT 045. This enabled faculty to share resources and experiences rather than having to learn how to teach the new course independently. The professional teaching communities help standardize these classes and give all instructors the teaching tools that best contribute to student success.

Math Redesign Challenges

Difficulty Tracking FLEX Student Progress. Math faculty members noted that keeping in touch with all FLEX students can be challenging. Given that only six hours of in-class time are required, students and instructors have less face-to-face time than they would in a traditional setting. To offset this issue, math instructors strive to check on student progress outside of the class meeting using email, but this is not always effective.

Confusing Assignment Due Dates. Initially, the flexible assignment due dates for FLEX lab courses confused students. To resolve this problem, the faculty changed the due date policy. As noted above, students now choose one particular day of the week to be the due date for their weekly math assignments throughout the semester.

Redesigned Course Outcomes

To help determine the ongoing effects and outcomes of courses redesigned under the COETC grant, ACC’s project leads reported to the Rutgers team on their redesigned courses and the modality used by developmental education. This information appears below.

PCC offered nine unique DE redesigned courses in 31 unique section offerings through Spring 2013. Approximately two-thirds of these courses occurred during the most recent term. Table 1 displays the course rollout by term along with the number and percentage of total students served by the course each term.

Term and Year	Percentage of Total Redesigned DE Population (All Subjects)	Number of Students (Redesigned DE Population)
Spring 2012	7.5	37
Fall 2012	29.9	147
Spring 2013	62.6	307
Total	100.0	491

In terms of overall student retention, 408 students (83.1 percent) registered for redesigned DE courses persisted in the class, 12 (2.4 percent) dropped it during the add/drop period, and 71 (14.5 percent) withdrew after the term started.

Table 2 presents the number of students enrolled in redesigned DE by subject. At ACC, 80 percent of these students were enrolled in math subjects, 8 percent in English, 8 percent in reading, and 4 percent in contextualized courses.

Subject	Percentage of Total Redesigned DE Population (All Terms)	Number of Students (Redesigned DE Population)
English	7.7	38
Reading	7.7	38
Math	80.7	396
DE Contextualized	3.9	19
Total	100.0	491

Tables 3 shows the number of ACC students enrolled in redesigned DE courses by course title.

Course Title	Percentage of Total Redesigned DE Population (All Terms)	Number of Students (Redesigned DE Population)
Advanced Academic Achievement	3.9	19
Basic Composition	3.9	19
Foundations of Reading	3.9	19
Writing Fundamentals	3.9	19
College Preparatory Reading	3.9	19
College Algebra : MA1	5.1	25
Compress Pre Alg/ Basic Math	50.1	246
Compressed Intro/Inter Algebra	23.0	113
Intermediate Algebra	2.3	12
Total	100.0	491

Table 4 presents the grouped mean grade for each course. In the months ahead, Rutgers will compare section means to departmental means and include the results in later reports.

Course Title	Course Mean Grade (All Terms and Redesigned Sections Combined)
Advanced Academic Achievement	2.0588
Basic Composition	2.8333
Foundations of Reading	2.0588
Writing Fundamentals	3.3889
College Preparatory Reading	1.3750
College Algebra : MA1	2.9000
Compress Pre Alg/ Basic Math	2.2921
Compressed Intro/Inter Algebra	2.8889
Intermediate Algebra	2.9000

ACC'S CAREER COACHING PROGRAM

Under the COETC grant, the career coach position is meant to facilitate student access to careers in the energy sector and to assist students with any academic and non-academic issues that inhibit their progress or ability to complete a course of study. The coaching functions were envisioned to include career counseling and referrals, academic advising related to career choices, and counseling and referrals for a wide range of social and financial support services. To conform to the COETC's intent, eligibility for career coach services requires students to be participating in a redesigned DE course or a TAACCCT-supported energy course/program, to

have Trade Adjustment Assistance (TAA) eligibility (or be TAA-like), to be unemployed, and/or to be eligible for other U.S. Department of Labor programs.

ACC hired its career coach on May 8, 2012. The coach came from the local workforce development office and thus brought a strong knowledge of workforce policies and funding opportunities to the position. The coach has been situated in ACC's advising center. To help acclimate to her new position, she spent one month shadowing different ACC advisers to better understand how she might best serve students in a college environment. Since her arrival, ACC staff and faculty have worked hard to incorporate her services into the college's everyday functions.

At ACC, the career coach offers case management and advising services to DE students. From her office, the coach has direct access to the testing center where all incoming students take the Accuplacer exam. The coach receives the test scores as soon as the exams finish and so can immediately identify students who place into a DE level or subject. She has scheduled her office hours such that she can be in the testing center and catch students for advising as soon as they complete the placement test. Should she not be there, staff at the advising center's main desk track student scores and refer them as needed to the coach. These students are expected to meet with the coach on their own time regarding their DE placement.

When the career coach first meets with a DE student, she focuses on his or her options at ACC, discussing the purpose of the Accuplacer exam and how the test scores affect the student's required classes and degree pathway. In particular, the coach identifies the student's educational goals and explains how long it will take to reach that goal based on his or her placement.

As noted earlier, ACC has worked to incorporate the career coach position into its everyday functions. For example, the coach can track individual progress using the early alerts posted in the system by instructors for almost every DE student. In addition, instructors call the career coach's attention as needed to students who may benefit from advising or case management. The career coach also makes a strong effort to participate in informational meetings with other departments. She also sits in on the math and English FLEX labs and other DE classes to increase student awareness of her presence and the services she offers.

One major challenge for ACC's career coach has been her large caseload. Managing communications with and providing in-depth coaching to such a large group can be difficult.

ACC's Electronic Student Case Files

As mentioned above, ESCFs help career coaches track student progress with goals. Rutgers hopes that PCC's ESCF data will help it better understand student challenges and best intervention practices, as well as the impact of coaching services on student retention and completion rates.

The career coach creates an ESCF for each student when they first meet and then inputs additional information from subsequent visits and interactions. Of the students registered by ACC’s career coach as of May 23, 2013, 82 (55 percent) had an active ESCF file and 67 (45 percent) did not.²

PCC’s Career Coaching Target Performance

At ACC, the target for career coaching is 206 students. Thus far, the coach has registered 149, or approximately 72 percent of the target under the grant.³

Career Coaching Eligibility Distribution

After reviewing active ESCF files and cross-referencing these with students enrolled in all redesigned courses, as certified by the project lead, Rutgers has identified the student eligibility for career coaching for 78 percent of all registered students. Table 5 displays the eligibilities of the students using the career coach along with the breakdown of how many students fall into each eligibility category. As the table shows, of this total 12 percent of students have been designated as TAA-like. Fifteen percent of those designated as TAA-like have also enrolled in one or more redesigned DE courses.

Eligibility Criteria	Percentage of Total Registered Students in Caseload	Number of Students (Caseload Population)
TAA-Like	12.1	18
DE Redesigned	51.0	76
TAA + DE	14.8	22
Unknown	22.1	33
Total	100.0	149

The eligibility of 33 students (49 percent of the coach’s caseload) remains to be validated. In the months ahead, it will be important to compare these percentages with ACC’s entire student population to be sure the career coach meets with as many TAA-eligible students as possible.

² Rutgers defines an active ESCF file as a “response in progress” in which student information has been entered into the ESCF but not submitted to the record. Career coaches can return to and update information in active ESCFs. An ESCF that has been closed or submitted to the system by the career coach is considered inactive.

³ We note here that students registered by the career coach may not have an active ESCF file. In order for the student to be considered registered, the career coach has to fill in basic information such as ID number and name but does not have to initiate an ESCF file. Alternatively, a student in this count may have been served by the career coach and the student’s ESCF submitted. Such ESCFs are considered inactive.

SUMMARY OF LESSONS LEARNED AND INNOVATIVE STRATEGIES

Career Coach Office Placement

Having the career coach's office in the advising center is advantageous. It helps the coach catch new DE students as soon as they learn their Accuplacer scores. Career coaches at other colleges often have to develop creative strategies to recruit students.

Career Coach Training

As explained above, ACC's career coach was able to shadow other school advisers initially. The knowledge she gained doing this has helped her provide more effective advice to DE students regarding their course schedules and overall academic pathways.

College-wide Integration of Career Coach Services

ACC's faculty and staff community has widely accepted and worked with the career coach. As a result, the coach has been able to develop strong relationships with advisers, DE English and math faculty, and the Dean of the School of Health Sciences. These relationships have helped increase student awareness and use of the coaching services.

FLEX Lab Implementations

The FLEX lab approach to DE English and math education encourages students to set goals and then work toward accomplishing them at their own pace. While the labs do have certain attendance requirements, the flexibility they provide makes the courses easier to manage for students working full-time or dealing with responsibilities outside of school. Students can, for example, complete much of their work outside of class. Math students can select the day of the week that works best as a due date for their tests or assignments. In short, ACC's FLEX labs help students complete their education requirements, often more quickly, while managing their responsibilities outside of college.

Faculty Development Efforts

ACC's "professional learning communities" have supported its faculty through the math DE redesign. These communities give teachers an opportunity to share experiences and suggestions among peers to develop the best team teaching methods. This means students experience a consistent approach from instructors that can make classes less confusing and contribute to their success in completing them.

SUMMARY OF CHALLENGES

ESCF Management

During our site visit interview, the career coach expressed concern regarding the ESCF questions relating to income and number of children. This reflects the overall confusion to date over the ESCF's function and purpose as well as its usefulness to career coaches. We note here that ACC hired a part-time data coordinator to perform ESCF input and that ACC uses the ESCF primarily as a reporting tool to CCCS and Rutgers rather than a case management instrument.

Online Coursework

Math faculty discussed issues with student perception of online coursework. While much of the FLEX lab work is done on computer, students value the face-to-face time they get in the lab over a fully online course. Faculty members suspect that, while in-person help for online courses is always available, students do not make the connection. They find that students taking a FLEX course are better prepared for future fully online courses. They note that students inexperienced with fully online courses do not always succeed, perhaps because of need for self-motivation and increased organization.

RECOMMENDATIONS FOR ACC

- ACC should extend the “professional teaching community” concept to English and reading so those instructors can also work together to share information and determine best practices for implementing seamless redesigned course delivery to students.

RECOMMENDATIONS FOR CONSORTIUM COLLEGES

- Having the career coach present at Accuplacer testing is something to consider. This makes the coach immediately visible and available to incoming DE students. It also helps increase the testing staff's awareness of the coach's role and can foster greater coordination and cooperation between the two.
- The career coach's thorough integration into the ACC community has had many positive effects. Other colleges might consider this approach to better provide the academic and nonacademic assistance students need to succeed.