

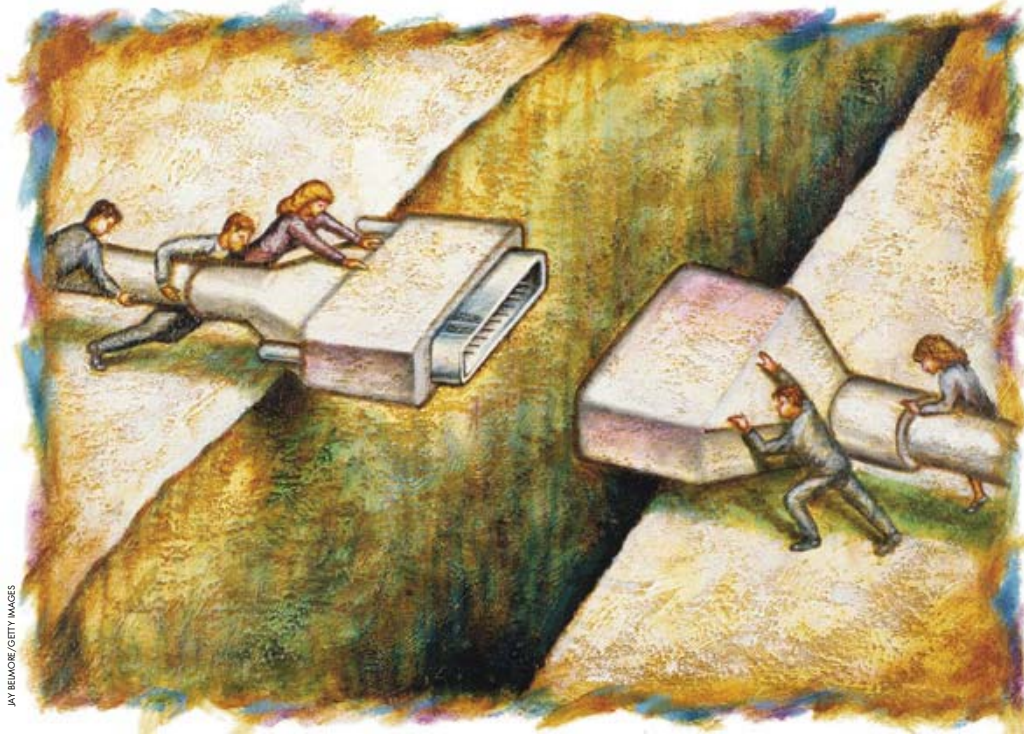
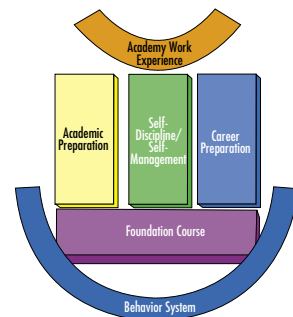
Digital Bridges to Community College

There is a growing population of young adults who are underserved by community colleges in the United States, students who are poorly prepared for college work and are at risk of poverty, social problems and failure to realize their full potential. Demographically, many are from low-income or minority groups. Often they grew up in troubled urban neighborhoods or rural agricultural areas. These disadvantaged students are difficult to recruit and retain, but we need to reach them if we are to fully serve our communities. The growth of the student population who drop out of high school will increase as high school exit exams are implemented nationally. Educational programs offered by community colleges represent this group's best hope of overcoming obstacles and moving into high-demand, high-wage jobs in knowledge-work fields, which require skills that are unfamiliar to these students. They need transformative education that helps them re-engage in learning. This article is about one model program that meets this need.

Lighting the Fire for Learning

The Digital Bridge Academy (DBA), developed at Cabrillo College's Watsonville Center campus in Santa Cruz County, California, serves a predominantly Latino population. This unique program was developed with support from the James Irvine Foundation, the David and Lucille Packard Foundation and the National Science Foundation. DBA provides a new model for serving under-prepared students that has shown great success with a group of students considered unlikely to succeed in college. It is a curriculum-based persistence model, designed to "light the fire within," and help students develop a true sense of self-efficacy and potential, and motivate them to engage in learning once

Figure 1. Digital Bridge Academy Elements



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again and claim a future they couldn't see before. These students are then accelerated to college level performance on several dimensions in an intensive, integrated 16 units semester-long program.

DBA finds that under-prepared students are capable of making rapid progress academically once they have hope

that they can succeed and a clear sense of who they are as students. DBA rekindles their fire for learning by teaching students how to recognize their strengths and how to change their approach to learning.

DBA uses a range of techniques drawn from corporate executive training and social service models as well as more

traditional educational methods through an intensive, 120-hour, immersion-style foundation course for three weeks early in the semester. Although the foundation course is hard work, to date 100 percent of students who entered have completed it, and emerge from the course confident and motivated to learn.

Curriculum-Based Persistence

For the remainder of the semester, students move as a cohort through a series of classes we call the Bridge Semester. These classes include college-level courses in computer algorithms, career awareness, two digital management, movement education, English and Learning to Learn (which was previously a separate class but is now integrated into other classes). We use an integrated curriculum and behavioral approach and emphasize experiential education and student participation. In one of the digital management courses, students do much of their work in self-managing work teams, a management technique based on creating the conditions for cooperative teamwork drawing on the strengths of each team member. It is used widely in high-tech companies and other knowledge-work settings. This particular mix of 16 units gets students



Figure 2. Typical Academy Student

Student Demographics

- 95% Latino
- 95% Low-income
- Ages: 18 – 55 years old
 - Average age per cohort – 21 to 29 years old
- 75% ESL backgrounds
- 67% 1st in family to attend college
- 62% from parents in migrant occupations
- Basic Skills Level: 9th Grade to college-level
- 93%+ At-Risk population
- 30%–75% per cohort are from High-Risk populations
 - Current cohort – 75% High-Risk, 50%+ high school dropouts

Student Characteristics:

- Do not typically see themselves going to college
 - Lack success in school; under prepared for college-level study
- Do not understand their own capabilities – low self-efficacy
- Not ready for Cabrillo College's Allied Health, CIS/CS and science-based programs
 - Not exposed to the sciences in High School
- Unsure of career possibilities and major

working at the college level very quickly and gives them the skills to succeed as they move into a variety of majors. In the first two semesters of the program (fall 2003 and spring 2004) the students enrolled in 19.5 units of Academy college-level courses. After the first semester students are provided with work experience and a 1.5 unit seminar each semester for the remainder of their time at Cabrillo College in order to support these skills and maintain their ties as a cohort.

We recruit a deliberate mix of students who have previously attempted some college work at Cabrillo (but who are still at risk of leaving college) and those who have not attempted any college work and are higher risk students. We teach students skills that are needed in all knowledge-work environments; this training in management and professional behavior makes them effective in the classroom and the workplace. My 20+ years in the computer industry has given me expertise in these areas and in industrial research. I am also Hispanic, grew up in an environment that exposed me to some of the same risks that our students face, and I attended community college, too.

Results

Although this program is fairly new, it has already shown a high degree of success in working with a group of disadvantaged students who are not ready for college work. There are several measures of this success, based on college transcripts, internal DBA data sets and surveys and the work of an external evaluator, Noreena Badway. Measures of program effectiveness include persistence rate, grades, coursework load in subsequent semesters, student surveys and other feedback mechanisms. We had predicted a high attrition rate with these students, but have found instead a very high persistence rate. Of those who completed the Bridge semester, 94 percent are still in college. Among those who had taken some college courses before entering the DBA, the mean grade point average improved from 1.61 prior to the Academy experience to 3.02 after. Students reported strong increases in motivation and self-efficacy and rated the program very highly, in many cases life-changing. These and other measures of program effectiveness are discussed in much greater detail in Badway's report. She recommends strongly that the DBA be replicated elsewhere. (Badway, 2005)

Figure 3. DBA Success/Completion Rate

Demographics:	Semester Pilots			
	Fall '03	Spring '04	Fall '04	Spring '05
■ Students	29	14	26	24
■ Latinos/Asian/Black	93%	79%	92%	100%
■ Age	16-43	19-52	17-55	17-41
■ Female	50%	57%	50%	48%
■ At-Risk students	95%	93%	96%	95%
■ High-Risk students	30%	63%	58%	73%

Completion Rate:				
■ Foundation Course	"Light the Fire Within"			
Passed Course		100%	100%	100%
■ Bridge Semester	"Accelerate to College Level"			
Retention		86%	100%	93%
Passed All Courses		83%	71%	65%
Passed All But One Course			86%	81%

Statistical analysis reflects the depth of change that students experience in the DBA but does not fully capture this transformation. As one 26-year-old student, a single mother of four who immigrated from Mexico at the age of 12 and who had never attended high school, commented:

"[My children and I] have a different life-style right now...I came to the Digital Bridge Academy because they taught me so much. They taught me how to believe in myself. They taught me how to learn that I could make it, no matter what comes.

"And I just—I just kept on saying that I wanted my kids to be proud of me, and—and right now, you know, I could say my kids are proud of me because I'm—I'm doing it. I'm going right now for registered nurse, and I graduated last semester with As and Bs. Actually, straight As, almost—one B. And then I did it this last summer with the math class and I graduated with an A, too. And for me, not going to high school, it was like, whoa, this is not me! Something's happening."

We are preparing to pilot replication of the program at several other community college campuses in our region, using a design process similar to the one we used to develop the DBA. This process will allow us to demonstrate ways for faculty to work within this new model, adapting it to their own student populations and campus environments, and to contribute as partners in the overall function of the DBA as a test bed for new approaches in community college education. We are convinced that, with faculty commitment and strong administrative support, new DBA programs can bring about profound changes in students' lives and broaden the reach of community colleges.

Reference

Norena Norton Badway, April, 2005. Watsonville Digital Bridge Academy: Report 1: Students Outcomes Evaluation, Cohorts 1 & 2. Higher Education Evaluation and Research Group. Unpublished evaluation report.

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