Higher education has usually been seen as a safe haven from the churn of corporate downsizing, rightsizing, or outsizing. But this security from the dot-com meltdown and corporate layoffs comes at a price: compensation levels in higher education are lower than those in corporate America. To compensate, colleges and universities market the benefits of this stability, the comfort and attractiveness of campuses, the breadth of benefit packages, and/or the goals of higher education.

This isn't enough today. The labor market continues to be tight, and in some areas, such as information technology, the compensation gap between corporate America and higher education is 25 percent or more, not including corporate bonuses like stock options. Typically, positions in higher education IT departments remain vacant anywhere from six months to two or three years. This increases the burden on remaining staff and prohibits undertaking new initiatives that will benefit the larger campus staff or goals.

Recently, the IT department at the University of California, Davis (UCD), decided to take a different approach with student employees. The department headed down a less-traveled path when it decided to invest in these students as it would in permanent staff. It began a program, called FastTrack, in which students are trained and mentored in highly marketable and highly compensated Web-development skills.

The idea of mentoring staff is not new, of course. Most IT departments probably have some sort of mentoring mechanism in place, be it ad hoc or organized. The new idea at UCD is to expand this concept to directly solve some of the staffing problems of the campus IT organization. Students are an ideal source of potential employees. Many university IT organizations hire students for tasks such as managing computer labs and providing helpdesk and other support, but students are not often involved in the more complex aspects of the IT organization (e.g., administrative systems development and systems/network/database administration). Doing so requires a more focused effort that reflects an organizational decision to try to solve staffing issues.

The IT department at UCD chose to create its student training and mentoring program within the applications development unit because of the staffing problems (high turnover, lack of applicants) that this unit has faced over the past few years. FastTrack was established in the spring of 2000 and consisted of one applications development manager and four students. The manager's primary role is to mentor the students and work with other project managers to involve the students in development efforts. The manager of this program is someone who understands the fundamentals of methodologies and practices and who also possesses not only the deep technical knowledge necessary to train others on the specifics of applications development but also the organizational skills to mentor and manage the program.

Getting the right students for such a program is no small effort. For the FastTrack program, we started looking in our own department, at lab-management students who may have been searching for just such an opportunity. We also contacted the computer science department, which was more than willing to post job announcements for its students. The result was a large number of applicants with very diverse backgrounds and interests. As for skills, knowledge, and abilities, we decided to hire either juniors or seniors, for their stability and maturity. Additionally, with juniors or seniors the investment time required is only one to two years rather than three to four. We also chose students who had some programming background (computer science majors or minors). The level of programming skills they possessed was not as significant as the fact that they had some exposure, so that they already knew the “basics” of programming.

But most important, we looked for very strong analytical and “soft skills.” The term “soft skills” is used often today and usually means different things to different people. What we mean by “soft skills” is communication skills (verbal and written), interpersonal skills (ability to work with others), team-oriented skills, and general attitude (hard-working and eager to learn). We placed higher priority on these skills than on the technical skills because teaching technical skills is more straightforward, whereas teaching “soft skills” tends to be very difficult and time-consuming. Technical concepts and programming languages will come and go, but “soft skills” keep IT professionals in touch with the most important aspect of their jobs: people.

Once our team was assembled, we debated the types of projects to assign. We certainly did not want to put students on the front lines of our critical administrative systems, nor did we want to have
them working directly with department customers, at least not initially. We first sought out projects that were small and “safe” from a risk and complexity standpoint but that also used the technologies and processes we wanted the students to learn. Our initial projects dealt mainly with Web-based applications that incorporated database backends. Over time, the projects have expanded in variety and complexity to include work on the student information system, the university Web portal, and recruitment Web portal applications—all of which use diverse technologies and applications development methodologies. We were surprised by how quickly the students came up to speed on the technologies (two to three months with a Web application server software and a robust relational database management system) and by how significantly the students contributed to these projects. Although these were not explicit goals of the program, they have turned out to be very nice benefits.

Getting FastTrack established was not easy. One problem involved the security issues surrounding access to the sensitive user data of our information systems. We thus took a close look at the systems that the students would need access to and discovered that we could easily restrict access to sensitive data areas by using database security roles or limiting access to only development areas of systems. To date, we have been able to accomplish all the tasks we were given under these constraints. Another problem concerned the time that our current development staff had to spend in working with these students. Although the program manager dealt with most of the technical and political aspects of the projects, the functional experts of each project or system needed to be a resource for the students. But once the staff saw how much assistance the students could provide after being given direction, the staff realized just how beneficial this investment is.

What’s next for the FastTrack program? We have been working closely with the university human resources department to set up a recruitment-waiver process that will allow any qualified member from the program to be placed into a full-time position within the department without going through the full recruitment process. This would be a benefit for both the students and the department managers who have position vacancies they need to fill quickly. As for the program work, we hope to expand this model into areas outside of applications development while continuing to build students’ skills on larger and more complex projects.

The phrase “build vs. buy”—used often in discussions of new applications—can be logically extended to applications development staffing (or, for that matter, to staffing in network management, database management, or systems management). Colleges and universities with enough money can outsource and bring in consultants or contractors to get past peak periods. Or, institutions can continue to wait to find qualified applicants who are willing to work at the compensation levels offered. Or, perhaps, colleges and universities can consider a program that targets what many private corporations look for from educational institutions: high-quality, well-educated graduates. These programs give a campus an advantage in that the institution has already taken the time to mentor, develop, and train the students. The gamble is whether what is offered is what a student wants upon graduation: interesting work, a solid initial salary, and continued potential for personal and professional growth. Higher education institutions may be surprised by how many students accept their offers.

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