

Different Strokes for Teaching Folks

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ABSTRACT

What differentiates technology-using teachers from the rest of your users? How can you best address their special needs? How will you know if you are successful in your approach? This session will take a look at three major considerations for supporting users who apply computer technology to their classroom teaching.

1. Classroom use of technology is time sensitive and mission critical. Staff can help minimize in-class technical crises by providing a comprehensive array of services to prepare faculty to use computers in the classroom and offer backup resources for veteran users.
2. Faculty members' technology development time must be conserved to cultivate their long-term interest. The initial increase of time required to develop technology applications for teaching can be held in check by strategically deploying self-service tools and closely monitoring faculty efforts.
3. As the number of those teaching with technology continues to grow faster than the size of support staffs, resource leveraging and continual assessment become more crucial than ever. Sustaining a shared vision for faculty support can add focus to collaborative efforts between campus support units.

Keywords

Faculty, teaching, classroom use, instructional support.

1. INTRODUCTION

Faculty and teaching staff who apply technology to their classroom teaching have unique needs. Successfully addressing these needs is essential to the effective integration of technology into classroom teaching. At the University of Delaware, we recognize that classroom use of technology is time sensitive and mission critical, that faculty development efforts need to be conserved in order to cultivate long-term interest, and—as the

number of technology-using teachers continues to outpace support personnel—that resource leveraging and continual assessment are more crucial than ever.

The University of Delaware has a history of supporting the integration of computer technology into teaching dating back to the days of the PLATO system. More recently, in 1997, User Services established a support center dedicated to faculty and teaching staff working on applying technology to their teaching. The University of Delaware is a Research II institution of approximately 15000 undergraduate and 2000 graduate students and 966 faculty members. This paper discusses some of our latest findings within the context of conventional campus classroom teaching (i.e., excluding distance learning support issues).

2. CLASSROOM USE OF TECHNOLOGY

What makes classroom use of technology time sensitive? In addition to the obvious, recurring preparation deadlines, more subtle constraints exist. Teachers have 15 minutes to allow the previous session to clear out, the preceding teacher to pack up their use of technology, set up their own laptop computer, connect to the Internet, check the video projection, and answer pressing student questions. What array of resources can provide faculty with the confidence they need to participate in using technology under such time limitations?

One faculty member based an entire class session on a Web-based simulation that would provide the foundation for group activities. Unsuccessful in his efforts to make the technology work and unable to reach a technical support person, he dismissed the class. Despite our attempts to discourage such mission critical approaches without a backup plan, this still happens. Given conditions such as these, what approaches can be used to minimize problems in this area?

Following the Boy Scout motto to “Be prepared” goes a long way to preventing classroom crises. At the University of Delaware, we start with a comprehensive array of resources intended to prepare faculty members using computers in the classroom for the first time. Faculty members who receive new laptop computers are encouraged to have their systems configured in our faculty resource center. The computer is registered for DHCP use on our campus network and the faculty member is shown how to activate and change the computer's external video settings. The instructional appointment is hands-on: the faculty member connects the cables in our simulated classroom environment and adjusts the laptop video settings at least once. The faculty

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member is advised on selecting sufficient font size settings within browsers and optimal color combinations for presentations. We then provide the faculty member with a full complement of cables (video, audio, network, and adapters) necessary for classroom connections. This is a backup to the set that should be available in each classroom's media equipment cabinet. Owners of previously purchased laptops are encouraged to make a similar appointment but can use a Web form to request delivery of the cable kit through campus mail. Online instructions and scripts are available for those who wish to work independently. The cable kit request form has been very well received with over 200 responses in the first month. We have used this opportunity to gather additional data from faculty on how they use a laptop computer in their teaching and how it has affected their use of class time. After a campus building is completed or renovated, a general orientation session provides the same information to a group of faculty along with a presentation of selected pedagogically sound examples of teaching with technology. These sessions are a collaborative effort of the Registrar's Office, Center for Teaching Effectiveness, Media Services, and User Services.

For in-class crisis response at UD, Media Services and User Services handle the first and second lines of support, respectively. Cross training between these two groups is vital. Media Services staff can respond immediately through a centralized call center using cell phones, pagers, and University vehicles. User Services staff are typically involved for laptop troubleshooting and new equipment compatibility. Given the time sensitive nature of the classroom situation, a staff person tries to respond with a fully operational laptop computer, file transfer kit (Zip drive, etc.), and a complete set of cables and interfaces. The support staff member tries to "fix the user as well as the technology" by determining the most direct course of action to address the teacher's immediate needs. This may involve substituting macro system components and leaving finer troubleshooting until later. When a problem is identified before class, faculty can take short-term loans of laptops and file transfer kits. (The University of Delaware is working within the model of self-service, smart classrooms where everything except a computer and a telephone is installed in the room.)

Another aspect of ubiquitous technology in classrooms is the increased student interest in using the technology in their learning and in delivering their presentations. Students who want to demonstrate their Web site or PowerPoint presentation to the class are approaching faculty members for this capability. When adopted appropriately, this use of technology supports active learning and the principle of "learning by teaching." To support this situation, UD will loan faculty members a laptop for occasional use along with in-class technical assistance.

By placing a high priority on the time sensitive and mission critical aspects of teaching with technology, support units can help ensure smooth continuity between development ideas and classroom instruction.

3. FACULTY DEVELOPMENT TIME

Ask a faculty member what the number one barrier is to their implementation of technology in teaching and the likely answer will be "the available time." While User Services cannot increase the amount of time that faculty have available for developing technology for teaching, we can use their time conscientiously and sparingly. Results need to be delivered on time to foster on-going acceptance by the faculty. Initially, it takes faculty more time to develop teaching applications when technology is involved. The more that support staff can minimize the time required from the faculty member, the more successful the faculty support program will be in the long run. What approaches can be used to ensure faculty time is conserved?

A specialized support center—where faculty members do not have to compete with students for access to multimedia equipment and personal assistance—was a fresh starting point for UD three years ago. The site is known as the PRESENT, a teaching, learning, and technology center, with an online presence at <http://www.udel.edu/present/>. The initial mission for the PRESENT was to provide guided tutoring to foster independent faculty users; enable the transfer of traditional media into digital form using self-service, special-function media stations; and to establish templates and tools that would facilitate wider deployment of technology-mediated learning. A mixture of professional and student staff skills and backgrounds was the foundation for integrating diverse technologies and pedagogical considerations. Particular attention was paid to making all staff conversant in all site matters by establishing a baseline vocabulary for pedagogical considerations.

The most important role for professional support staff is to set parameters for faculty to ensure that appropriate technologies and attainable goals are selected. It is often up to the staff to remind the faculty what is worth spending time on in terms of improved learning. For individual consultations, we have taken the approach of teaching faculty how to use the technology rather than doing it for them. (An exception is our student technology assistant program, noted below.) This has the advantage of keeping faculty members engaged in learning at individual levels, while conserving staff time to provide more just-in-time answers. The downside is the enticement to help the project along by doing the work for the faculty member. Online templates and scripts and in-site, self-service multimedia systems help reduce faculty time. In the spirit of encouraging independent use of technology, faculty are encouraged to borrow special equipment, such as digital still and video cameras, for one business day. These items are provided in turnkey kits, complete with storage media, cables, batteries, re-chargers, software, and a tip sheet in lieu of the owner's manual.

Our student technology assistant program is an effort to develop a limited number of more extensive faculty projects each semester with the expectation that the results can be applied to a larger group of faculty users. Based on the realization that the primary barrier to faculty adoption of technology is time, a simple three-question call for proposals was issued through e-mail. (The three questions were: 1) What do you want to do and why?, (2) What

will be your role and what will be the role of the student worker?, and (3) How will you know if your project has met your goals?) The student technology teams widened our focus to include some projects that were not initially self-service tools for the faculty. A small group of respondents were selected and assigned to a student technology assistant team. These teams were comprised of students and staff with complementary skills sets. Where possible, the results of these projects were re-packaged into more generic tools. This allows us to provide greater development depth for some projects while helping extend our ability to address a large number of potential users. Resulting products include a survey manager, anonymous suggestion box maker, study group and FAQ site utility, and htaccess file generator.

When addressing the issue of time, it is important to consider the most efficient means to employ student development time as well. By providing laptop computers for student use, we benefited from a dramatic shift in work habits. Laptop computers contribute to a productive work environment on several levels. Scheduling issues are minimized. Students no longer work around the availability of our faculty support site or general use student computers. Additional office space was not needed. Ad hoc meeting space was formed when students brought their laptops in to discuss progress with faculty and staff. Students were allowed to maintain possession of the laptop for the duration of their employment with us. The students appreciated being able to fully customize their operating systems, and the site staff benefited from having fewer systems to maintain. Students even handled their own replacement part orders and installations. Docking stations were provided within the site and data files were regularly backed up to a network file server.

During initial meetings, we remind faculty that the teaching preparation time required of them will not actually diminish—although it should change. Faculty will be working with support staff and technological resources that will place new capabilities at their fingertips. They should expect to attain certain teaching improvements but not necessarily in less time. Although reductions in time commitment may occur through repeated use of a certain level of technology, we do not set that as an initial faculty expectation. It was not uncommon for faculty finishing a project to have an insight such as, “I got a lot of creative ideas from the various people involved, things that I never would have thought of myself.”

4. RESOURCE LEVERAGING

Resource leveraging and on-going service evaluation are necessary to the long-term endurance and quality of a faculty support program. What approaches can be used to leverage your limited resources in this area? Workshops, academic departmental meetings, online tutorials, and template files will take more support staff time initially, but if developed strategically (i.e., in the most heavily used areas first), they can pay off substantially. Our workshops range from 1-3 hours with focused topics for faculty users of technology, including “Laptop Survival Skills,” “Putting Your Syllabus Online,” and “Using a Digital Camera to Enhance Teaching.” Working with teaching assistants requires that the faculty member stay involved at critical

decision making points to avoid revisiting the same issue for each subsequent TA. Syllabus templates, developed collaboratively with our Center for Teaching Effectiveness, combine syllabus construction advice with Web page placeholders as a quick starting point for a first online syllabus.

In recognition of the fact that development projects require a lot of stamina from the participants, we sought out synergistic projects in the proposal process. For example, team-taught interdisciplinary courses that built upon a wider base of involvement and support were considered to have a high potential for success. We also sought to leverage faculty participation in other development activities, such as our summer and winter faculty institutes and a grassroots program known as the Institute for Transforming Undergraduate Education (ITUE).

You can also leverage your tools and showcase models whenever teaching to faculty. Faculty members learn through modeling, when they can experience the connection between the tool and a teaching need. This last step of promoting completed efforts is necessary to maintain interest for the next round of projects and encourage mainstream adoption of completed products. Completed projects are typically only known to those involved in its development. We rely on summer and winter faculty institute sessions, including showcase-style overviews, a Public Relations newspaper insert called TechTalk, departmental meetings, and targeted e-mail solicitations to spread information about new tools.

“How will you know if you’ve done the job right?” Asking faculty to evaluate your services can take several forms from an informal e-mail inquiry from the group manager or a more elaborate online survey. Keep in mind the issue of faculty time—briefer is better. A few leading questions will tell you what worked, what didn’t, and what you could do better in the future. It is more difficult to gauge whether faculty members are operating more independently and student learning is being improved. We often rely on anecdotal evidence in this regard, but sometimes are able to benefit from more extensive research on the part of the faculty.

5. CONCLUSIONS

Just like with mutual funds, past success isn’t necessarily an indication of future performance. As you continually listen to faculty members’ pet peeves, monitor their frequently asked questions, and learn from previous experiences, you quickly realize that this is never-ending.

User services units are faced with providing support for teaching with technology in the convergence of several trends. First, there is a greater dependency on technology readiness in the classroom. Second, faculty members are displaying greater technical awareness accompanied by higher expectations from the technology. Third, and not surprisingly, students are demonstrating an interest in using classroom technology more in their learning and presentations.

The following resources mentioned in this article can be accessed from <http://www.udel.edu/present/presentations/siguccs2000>.

- Roaming access (DHCP) tutorial
- Laptop cable kit request form and instructions
- Orientation presentation after building renovation
- Digital camera tip sheet
- Workshop listing
- Syllabus templates
- .htaccess file generator

- Suggestion box creator
- Discussion group and FAQ manager
- Survey generator
- Other campus resources: CTE, UMS, ITUE
- Faculty interview and proposal forms

6. ACKNOWLEDGMENTS

Our thanks to Janet de Vry and Leila Lyons for sheparding these faculty development initiatives at the University of Delaware.
