

## 12.1 Faculty Development Programs: Teaching professional educators to drink from the fire hose

### Editorial

Pat Cravener and I met at a NAUWeb conference that I chaired in 1998 and I listened attentively to her presentation. I came across her paper again recently, while busily searching my files for something else. Four years seems like a long time ago and so much has happened since. The course management systems we are so familiar with today were still in their infancy - Murray Goldberg of WebCT presented at NAUWeb97. Distance Education was still considered at most institutions to be an academic stepchild and the Web itself was only four years old. Sound's like ancient history, doesn't it?

The title of the NAUWeb98 conference was "In the Footsteps of Web Pioneers," acknowledging the early incursion of "settlers" into what had been pioneer territory. Those of us who worked, learned and discovered alongside the pioneers now find ourselves rather like primary school teachers repeating our discoveries in now formalized lessons and hard-won "Best Practices" to each new generation of students. Those principles and practices have been long established and yet each new generation of faculty come to them as if they were brand new.

What has not grown along with the 'settler' technologies, like the learning management systems, is administration's realization of the quantitative and qualitative difference between classroom and Internet-based teaching. "The academy has embarked on the commercialization of online courses without giving sufficient attention to conducting adequate research about online courses, training professors to operate successfully in online courses, and preserving academic integrity" (Speck, 2000) - a familiar refrain of mine. Sound faculty development has a great 'return-on-investment!' For every well-trained faculty person, coached to function confidently in an online classroom, there will be hundreds of students who will have the advantage and satisfaction of enhanced learning environments.

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## Faculty Development Programs:

### Teaching professional educators to drink from the fire hose

Traditional poetic images of the scholar's life include ivory towers, Muses, still waters, and the Pierian spring (Pope's "a little learning is a dangerous thing . . ."). Rarely, if ever, are fire engines and raging infernos held up as images of teaching and learning. On the other hand, the flow of information on the Net has been described as being like water gushing from a fire hose: "The Internet is causing a

revolution in scholarly communication by changing the way research information is produced and disseminated. . . . This enormous flow of information (and junk) is an opportunity and a challenge -- namely, how do you drink from a fire hose?" (Henderson, 1992). It is an apt analogy. Even in the new century, we find (not surprisingly) that many college and university faculty members would rather not grapple with the Internet fire hose, but are content to work with more traditional communications media in their college classrooms.

Recent surveys of campus computing show that only 30.7% of college courses have Webpages and approximately 40% of college courses don't even use email (Green, 2000). Comments posted to the DEOS list and other online discussion groups often reflect the frustration encountered by Instructional Technology trainers when their hours of preparation and presentation are apparently followed by *no change at all* in how faculty use the technology to improve teaching and research processes. This paper describes a plan for improving the outcomes of faculty development programs.

The problem definition ([Figure 1](#)) is based on findings from a 1993 survey of faculty and graduate students at a public university (Cravener, 1994), personal experience with teaching Internet communications skills to graduate students and faculty members, change theory, and models of adult learning. Finally, a [planning checklist](#) is provided to serve as a guide to faculty development programs. The basic principle underlying the faculty development paradigm presented in this paper is that adoption of information technology for teaching and scholarship is an innovation issue -- a change process. Constructive attention must be paid to the faculty's affective responses to change, if successful outcomes are to be achieved.

### **Identifying the Barriers**

Faculty development programs are attempts to introduce innovation: the desired outcomes are changes in academic behaviors. Both overt and covert barriers to change exist in every institution. These are the restraining forces (Lewin, 1951) that mitigate against change. Once the barriers are identified, it becomes possible to develop solutions to the problem issues related to resistance factors. The challenge is to recognize the barriers, and to find ways to get around, over, or through them.

#### **Institutional norms**

The simplest to use of all Internet communications is probably email. Yet, in many colleges and universities, competent use of electronic mail is still not considered a necessary, or even a highly regarded, executive skill. Although intra-departmental email messaging is now common and the percentage of college courses using email jumped from 8% in 1994 to approximately 20% in 1995 and 25% in 1996 (Green, 1996), in 2000, a plateau seemed to have appeared in adoption rates: approximately 40% of college courses still do not use email communications for academic purposes (Green, 2000). Recent slow growth in email use suggests that many of our colleagues are moving too slowly towards citizenship in the territory of the Information Age. The plateau, with relatively low rates of change between 1995 and 1999, appears to represent an underlying resistance to adoption of communications technology. As long as Deans and senior administrators exist who have their administrative assistant's print their email, it will be an uphill battle to change institutional norms in such a way that effective use of the Web is valued by a high proportion of the faculty.

#### **Reward Structures**

Some aspects of faculty rejection of Web-based teaching and learning reflect an unfortunate reality -- a reality any faculty development team will need to confront openly and directly. Despite all the hype over the past several years, distance education continues to occupy a marginal status in academia. Annual evaluation, promotion, and tenure dossiers filled with Distance Education -- Distance Learning activities are still neither highly valued nor well rewarded as indicators of scholarly activity. Even at land-grant universities, teaching at a distance are too often aligned with extension and service, and is much less regarded than traditional classroom based teaching when promotion and tenure decisions are made (Wolcott, 1997). This can discourage young, energetic, technologically-oriented faculty who are willing to experiment with technologically-mediated methods of teaching and learning, and provides no incentive for senior faculty persons to change.

### **Anxiety**

An important key to the success of faculty development projects is skilled attention to the processes involved in structuring the interpersonal and social aspects of training sessions. Affective issues, such as anxiety aroused by cognitive dissonance (caused by conflict between the educator's beginner roles with instructional technology and/or Internet communications and his or her normal view of the self as a scholar and discipline expert) may play a substantial role in the willingness of faculty members to participate in 'technology use' workshops. This dynamic was apparent in the 1993 survey of Internet use patterns, and unfortunately has changed very little in the intervening years. Faculty and administrators tended to rate their own knowledge and skill levels unrealistically high; in some cases a negative relationship was seen between self-ratings of proficiency and actual range and frequency of use of Internet resources. This effect was probably due in part to a certain blissful ignorance of the possibilities for confusion and error. In addition, the tendency to define the self in terms reflecting competence is in effect. People who have achieved a degree of success in their professions, whose normal definition of self includes the words "expert" or "authority," are likely to have difficulty seeing themselves in dependent learner roles. To the extent that participants are asked to self-define their current knowledge base as inadequate or insufficient, they are likely to reject the validity of the new information. This affective barrier to learning is an age-old phenomenon that changes little, if at all, while information technology changes relatively quickly.

At many colleges and universities, faculty either fail to attend workshops that have been planned to enhance their ability to use educational or communications technology, or fail to implement material and concepts to which they have been introduced, after the workshop ends. The problem is usually related to a marked misunderstanding of motivational patterns on the part of those who plan the workshops. As indicated in the [Disjunction Model](#), faculty tend to have areas of interest and areas of concern that differ from the focus of instructional technology services (ITS) or faculty development staff. Whereas ITS and faculty development staff tend to focus on selection and teaching of new technologies to improve teaching and research, the faculty, paradoxically, tend to be less concerned with that domain. In general, the faculty believe they are already successful at teaching and research. Further, the proposal to a successful professional educator that he or she needs to learn new media for teaching and scholarship implies that the old way was somehow inadequate, insufficient, or not optimal: a potential threat to their self concept.

### **Myths**

If questioned, most people will admit that they believe failing to keep up with ever-changing technology indicates a cultural lag and is inherently a bad thing, whereas technological innovations

are inherently progressive and thus, a good thing. The fact, of course, is that new technologies are neither good nor bad, but merely a means for solving new problems. Two possible pitfalls attend the myth. First is the inevitable arousal of cognitive dissonance related to *not* "keeping up with technology" if to do so is considered laudable without any other criterion than novelty. That is, the person who believes the myth and knows that he or she is not "keeping up" experiences anxiety related to the discrepancy between the ideal self and the real self. While a mild to moderate degree of anxiety promotes change, this additional burden is likely to make it more, not less, difficult for busy academics to embrace new Web-based technologies for teaching and learning.

Second, if people expect that as new technology is introduced, academic life will automatically become easier, then we will have a whole new set of obstacles to overcome. Disillusionment during early stages of adopting new processes for Internet-based teaching and research will be inevitable. The reality is that technology is not a magic bullet. There is even an often steep learning curve, during which productivity can be expected to diminish. The new instructional technologies, particularly broad band multi-media computer-mediated communications, empower us to solve new social problems related to life-long learning patterns and needs for expanded access to education for all members of our society. The adoption of new, Internet and Web-based technologies merely fill a need: new problems or challenges need new resolutions.

### **Forces Promoting Change**

#### **Social demands**

Fortunately, driving forces (Lewin, 1951) for Web-based teaching and learning exist in at least as great profusion as resisting forces. Motivators for academic change include new social and economic conditions. Changing economic realities and the appearance of new markets for higher education have been factors spurring the expansion of distance programs. Seventy-one percent of higher education institutions offering distance education courses in 1995 held the goal of reducing per-student costs as somewhat or very important, 83% had the goal of making education more affordable for students, and 95% held the goal of making access to courses more convenient for students (Lewis, Alexander, & Farris, 1997).

Demands for change in higher education, calls for action like Drucker's (1994) *Age of Social Transformation*, *America's Choice: High Skills or Low Wages* (National Center on Education and the Economy, 1990) or *Changing the Odds: Open Admission and the Life Chances of the Disadvantaged* (Lavin & Hyllegard, 1996). These are challenges that help drive adoption of Web-based teaching and learning. Most institutions of higher learning are challenged to meet the needs of the great influx of adult learners. Providing asynchronous Web-based learning activities is a solution for the problem of students whose competing work and caregiving responsibilities preclude the option of daily drives to the college campus. Faculty who gain instructional technology skills for Web-based teaching and learning provide vital opportunities for institutions to expand access to higher education to adult students.

#### **Technology can support excellence**

In the 1993 survey, busy faculty needed to know exactly how they would benefit, personally and/or professionally, from learning to use new technology or Internet resources. My observation is that this

factor has not changed, but is intensifying as pressures to contain costs while improving productivity are increasing in academia. It is, moreover, typical of adult learners in general to be very much more interested in material that has immediate, practical, "just in time" relevance to their lives. For faculty, developing the technical expertise to offer some or all of their course offerings via the Internet/Web provides new opportunities to improve teaching expertise and meet student needs. Chickering's *Seven Principles of Good Practice in Undergraduate Education* (Chickering & Reisser, 1993), originally developed for traditional classrooms can be transposed - seamlessly - to hybrid (technology enhanced classroom courses) and online courses:

1. *Good practice encourages contacts between students and faculty.* Asynchronous communication technologies provide opportunities for more frequent and timely interactions between students and faculty.
2. *Good practice develops reciprocity and cooperation among students.* Both synchronous and asynchronous communication technologies expand options for working together in learning groups far beyond the confines of physical space.
3. *Good practice uses active learning techniques.* Web-based instructional technologies provide a means of access to research libraries, art museums, laboratories, and professional practice sites where students can interact with applications of abstract concepts.
4. *Good practice gives prompt feedback.* In addition to direct person-to-person feedback by email, Web-based technologies permit such innovations as online markup responses to draft papers and online quizzes with immediate results.
5. *Good practice emphasizes time on task.* Information technology can make studying more efficient by providing access to important learning resources.
6. *Good practice communicates high expectations.* Use of information technology can assist students with improving their cognitive skills by providing examples of excellence and providing a forum for self and peer evaluation.
7. *Good practice respects diverse talents and ways of learning.* Web-based asynchronous learning resources permit each student to progress at his or her own pace (Chickering & Ehrman, 1996).

Wide dissemination of these concepts to all members of the faculty, via newsletters, informational fliers, or individual campus mail, can help reinforce the fundamental rationale for academic use of Internet resources, and, incidentally, improve classroom teaching and learning.

### **Risk-taking Faculty**

Faculty consider themselves expert learners, scholars who are adept at self-directed study in their disciplines. Within any academic department, there will be faculty members for whom the threat of learning to use new technologies is relatively minor and who are eager to acquire new knowledge and specific skills. For example, in the 1993 survey, a formal research project with all the standard guarantees of anonymity duly approved by the Committee on Human Subjects, some respondents were so enthusiastic about the possibility of technical training targeted to their needs that they signed their survey forms or made a personal call to the principal researcher to request coaching. I observed the same phenomenon during a more informal faculty survey at a different university in Spring 1998. In a manner similar to snowball sampling, these enthusiastic volunteers can be instrumental change agents who encourage other faculty members to join them in adopting Web-based technologies.

### **Change agents**

The power of informal change agents can be a substantial driving force, encouraging more and more faculty members to explore Web-based teaching and learning technologies. Johnson & Johnson (1994) described three kinds of power that are independent of authority hierarchies: referent power, informational power, and expert power.

When a person has *referent power* group members identify with or want to be like her and therefore follow her lead out of respect, liking, and wanting to be liked. . . . When a person has *expert power* group members see him as having some special knowledge of skill and as being trustworthy. . . . When a person has *informational power* group members believe that she has resources of information 'that will be useful in accomplishing the goal and that are not available anywhere else. . . it has effects similar to those that result from the use of expert power (p. 407).

All faculty who successfully participate in instructional technology training programs can be seen as informal change agents. Participants in faculty training programs gain information and expertise, and can serve as influential leaders within their own departments and course groups.

The April-May 1998 issue of a business magazine, *Fast Company*, contained an article describing how individuals with no formal power in their companies achieved major changes. In very practical, non-theoretical terms, business men and women described how they used expert power, referent power, and/or informational power to lead their companies in new directions. Examples of their conclusions are:

Rule 1 - Nobody wins unless everybody wins . . . try to blend your goals with the goals of the people around you; and

Rule 2 - Don't just ask for opinions -- change them . . . the process of exploring people's ideas gives you an opportunity to shape them.

Ask questions that build support for the outcomes you want. Always work to create a climate in which everybody can share ideas and information. Warshaw (1998) concludes that not only administrators but every member of the institution has potential power to contribute to constructive change.

### **Developing the Plan**

Moving mainstream or late-adopter faculty to Internet use is not about technology *per se*. The move to Internet and Web-based communications, research, teaching, and learning is a change project with policy and practice implications that will reverberate throughout the institution. No one person or department acting alone can accomplish far-reaching changes. The first step is to identify the key individuals within the college or university who have an interest in moving towards Internet and/or Web-based instruction, and who have some knowledge of, and skill with, institutional change processes.

### **Engaging the leaders**

Change is facilitated by active leadership at the highest level. Faculty in the 1993 survey needed to know that their participation in Internet skills training sessions, whether offered by Information Technology Services or by another department, would be recognized as valid continuing professional education by their department chair. Providing assurance of this recognition is an essential first step

towards engaging busy faculty in new Internet/Web-based learning and professional activities. Although barriers to the adoption of Internet/Web-based teaching, research, and publication are real, the forces promoting their adoption are also real, and widely recognized. Every institution of higher learning has a great wealth of administrative and professional talent from which to form a leadership group of individuals who support and assist needed changes, helped immeasurably by what they have taught or learned online themselves.

### **Individualizing instruction for faculty**

What do your faculty members want to know? When and how do they want to learn it? A basic principle of adult education is that adults learn what seems important to them, and they learn by actively building upon their current knowledge and skill base (Brookfield, 1986). The second step for a new faculty development program, after engaging campus and departmental leaders, is to survey the faculty. The survey will provide a general overview of faculty needs for knowledge and skills training. Such surveys should be an on-going activity as faculty needs change as distance/online learning is adopted and institutionalized (Schreiber & Berge, 1998). Further, volunteers for training will come forward from your initial survey, and further surveys will continue to stir their attention. From this group of volunteers come your informal leaders for the introduction of innovation.

Your survey will tell you what faculty most want to know. Provide exactly that. Training sessions that are tailored to individual interests, and provided at the time and place faculty find most convenient, are vastly more likely to be effective in shaping behavior change. It is more cost-effective to target your teaching sessions in such a manner that the change "takes," creating a groundswell of demand for further growth, than to offer general series of instructional workshops and classes that are either poorly attended in the first place or not implemented afterwards.

Professors and administrators are busy people. The author's 1993 survey and frequent informal contacts during the intervening decade indicate that, to seriously consider taking time to learn new ways of teaching and learning with Internet resources, faculty members need to have training sessions built into their existing work load. In addition, 39% of faculty responding specified that the conditions under which they would prefer to learn to use new technologies would be either 1:1 instruction or in a small group of peers. Thus, it may turn out to be most cost effective, in terms of permanent gain for expenditures, to offer individual and small group sessions to faculty members at their convenience, in the privacy of their own offices and using their own course content and materials. In addition to overcoming some potential social or political problems, using the learner's own computer for teaching purposes is the best possible strategy for ensuring that he or she has access to needed hardware and software after the training sessions end, and for promoting adoption of the new learning.

### **Choosing the coaches**

By definition, faculty are well educated, expert learners, but announcing ignorance is always risky business for knowledge workers. Displaying ignorance is even worse; many people fear that they will be revealed as inept or unintelligent when they attempt to master new ways of teaching and the instructional technologies that mediate them. Thus, in addition to being competent with the technology, excellent faculty coaches must have superb communication skills, group facilitation skills, and the ability to establish an ongoing relationship with the faculty members that they are teaching or coaching. Their credibility is considerably enhanced if they have experience in online or Web-based teaching. In the group workshop setting, trusting, non-competitive relationships among

learners and with the workshop facilitator, emphasizing shared exploration of the new teaching methods and technologies, will promote risk-taking to meet learning goals. In addition, faculty developers who are professional in their demeanor can serve as role models for the faculty, promoting and encouraging change through informational, expert, and referent authority.

Skilled faculty trainer/coaches are people who have a good grasp of how adults learn, and who can adapt their teaching styles to the needs of individual learners. Those who understand that adults learn best by doing, and that telling is not teaching, will be most successful in supporting the learning of faculty members (Brookfield, 1986). Further, faculty developers need to understand that faculty consider themselves expert learners in their disciplines but that does not mean that they will be independent, expert learners for new methods of information technology mediated teaching. Gerald Grow's (1991) Staged Self-Directed Learning Model describes a dependent-independent continuum of personal learning styles, which are partly related to the material to be learned and partly related to the unique personalities of the learners.

People who are predominantly *dependent* learners do best when they can rely on an expert teacher to coach them in new skills. *Interested* learners need a teacher to guide them in setting personal learning goals and to take the lead in developing learning strategies. *Involved* learners need a teacher who acts as a facilitator. *Self-directed* learners prefer a teacher who serves as a consultant. 73% of the Cravener 1993 survey responses indicated that respondents were not prepared for self-directed learning of new teaching skills and Internet communications programs, but had a preference for structured and task-oriented teaching methods with close supervision and assistance while learning. In accord with Gerald Grow's model these expert learners were temporarily teacher-dependent, lacking either the relevant knowledge, skills, and experience or the motivation and self-confidence to pursue their learning goals independently. We can anticipate that faculty members, as expert learners, will advance rapidly toward self-directed learning of Web-based teaching methods and educational technologies as they gain confidence.

### **Setting specific skills objectives**

The content of faculty development workshops will vary over time, vary among individuals, and vary across departments, colleges, and universities. Content of faculty development training sessions will be determined at each institution by surveying administrators, faculty, and resident experts. Subsequently, the series plan can be developed with assurance that material to be offered is relevant to faculty needs.

Clearly defined goals and objectives for each session will be based on whatever skills your faculty member/trainee wants to acquire. Each workshop session should focus on a structured project that has a predictable outcome. Initially, efficient educative strategies will involve 1:1 instruction or small groups, targeting learners' fears and resistance and assisting them with developing goals and motivation to develop Internet/Web-based teaching and research skills. In addition, each trainee should be provided with an attractive and convenient handbook, folder, or binder for convenient reference to the review materials that accompany each session. Well designed, attractive information sheets describing the specific concepts or procedures covered, in concise form, should be included with each lesson, to promote review and independent learning. The general pattern of teaching strategies will progress through informational discussions, skills drills, expert demonstration, and guided practice, always emphasizing close coaching and supervision with supportive, encouraging

feedback.

It is quite probable, given the continuing popularity of the World Wide Web, that many people will be interested in having a Web page to accompany their courses or programs, or to use an available Web-based course platform (e.g Blackboard, WebCT). Although page making or document tagging is a task that faculty may subsequently delegate to assistive personnel, creating a simple but attractive Web page can be the "just in time" task that provides the vehicle for immediate learning to use their new content design skills and information technologies. For faculty who just want a Web page, a natural opportunity exists to provide some basic information about the history of the Internet, addressing conventions, and browser options, as well as teaching HTML basics procedures. For this kind of task, there is no need to reinvent the wheel: if your institution does not already have HTML tutorials on hand, one of the many excellent lesson series available on the Web can be used. (Examples include the [HTML Goodies Page](#) and [Web Monkey: HTML Tutorial](#). Coaching faculty through the process of locating the online skills tutorials, bookmarking sites, and printing documents for later reference makes an excellent second or third lesson for a basic Web page creation series.

### Summary

Widespread adoption of Web-based instructional technologies requires fundamental changes within the institution. Traditionally, institutions of higher education have been authority centered: they have been controlled hierarchical systems for delivering knowledge to students. The fundamental shift to learner-centric thinking represented by distance education programs is not a trivial nor easy change. Changes in the technology used by educators to interact with students have across-the-board philosophy, policy, and procedure implications. If Internet/Web-based teaching and learning are to become the norm, then distance learning programs will have to be valued by the institution so that faculty who engage in online and distance teaching and learning are rewarded for their activities.

Fundamentally, resistance to adopting new technology is not about technology: It is about the feelings and anxieties and fears people have when faced with major personal and institutional changes. The move to the Web, for many of our colleagues, is a move out to perilous, unknown territories and is fraught with anxiety. Nevertheless, change is occurring at an increasingly rapid rate. Early adopters of educational computer-mediated communications, whatever their academic discipline, are the resident experts who can help lead institutions of higher learning to new levels of outreach and excellence. With attention to affective issues, assurance of administrative support and recognition, and skilled application of principles of adult learning, our faculty development projects can be successful in helping our colleagues join us in providing excellent Web-based or Web-enhanced learning experiences for college students -- preparing them to become life-long learners.

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An earlier version of this paper was published in the Proceedings of the **NAU/Web.98** Conference: "In the Footsteps of Web Pioneers" sponsored by the Western Consortium for

Educational Telecommunications and Northern Arizona University, May, 1998.

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