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EMPOWERING INSTRUCTORS TO GET THEIR COURSES ONLINE

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em·pow·er (ĕm-pou'ər)

tr.v. em·pow·ered, em·pow·er·ing, em·pow·ers

1. To equip or supply with an ability; to enable.

Introduction

As universities offer more online courses and even entire degrees, it becomes difficult to rely only on the “early adopters” who are comfortable embracing new technologies and pedagogies. As the demand for online courses increases, it is becoming necessary to “encourage” instructors who may not have any experience with web-based learning to develop and mentor online courses. The prospect of creating and teaching an online course can be a daunting proposition for these instructors, especially if they are just getting the hang of checking their e-mail and surfing the web. This presentation will outline how the relatively small Instructional Technology and Media Services (ITMS) department at NJIT works with faculty to empower them to move online.

Because of the small size of our department, and the number of online courses that we produce, we are unable to assign staff to work exclusively one-on-one with faculty throughout the semester. This can be problematic given the fact that we frequently work with instructors that are unfamiliar with online learning and who do not have the knowledge/skills necessary to get their course material in a format that is appropriate for electronic distribution. In order to serve the faculty, we have implemented a program that incorporates multiple steps over a longer period of time that is aimed at empowering the faculty to move their course entirely online.

Instead of attempting to create an online course, instructors organize their materials and learn to convert them into an electronic format such as PDF files, PowerPoint's, and/or HTML files to support their face-to-face classes. Once they have their course materials organized, they learn how to create a basic website that can host these materials. Once armed with their website and course materials, they learn how to incorporate the asynchronous communication tools available in tools such as WebCT or WebBoard. They then use this “hybrid” course with their face-to-face classes for a semester to understand how to use the software and become effective facilitators. Once they have successfully offered a hybrid course, they are ready to teach entirely online.

History of eLearning at NJIT

New Jersey Institute of Technology has a long and rich history of online instruction and the delivery of alternative learning. As early as 1975, NJIT began the research and development of online threaded discussion systems. Under a grant from the National Science Foundation, NJIT created the Electronic Information Exchange System (EIES). EIES was a feature-rich online tool for group communications that thirty years ago contained many of the tools available in today's commercial systems. Among these tools was the ability to provide threaded discussion space, e-mail, shared and private notebook and scratchpad space, instant messaging, both public and private conferences, voting, user directory, message receipt confirmation and a gradebook.

Between 1984 and 1986, NJIT and Upsala College offered nine fully online courses in Mathematics, Sociology, Management, Statistics, Humanities and Computer Science. Utilizing the EIES system, more than 132 students completed the courses entirely online. Based on these advances, NJIT coined and trademarked the term "Virtual Classroom."

Through the late 1980's and the mid 1990's, NJIT began offering hybrid courses supported by the EIES system with lectures delivered by videotape and cable TV. As many as 40 hours of videotaped instruction were delivered each week through a statewide cable television system. Other methods of delivery included one-way video via Instructional Television Fixed Service, New Jersey Network (the NJ PBS affiliate) and satellite. These efforts included Introduction to Computer Science, Physics 111, Calculus I, as well as the use of prerecorded programming such as "The Mechanical Universe."

Between 1993 and 1996, the Alfred P. Sloan Foundation funded "Video Plus Virtual Classroom: Educational Excellence Through Self-Paced Learning." This unique effort sought to provide an entire Bachelor of Arts degree in Information Systems and Computer Science through the blended use of videotape and the NJIT "Virtual Classroom"®. From 1997 through 1999, additional Sloan Foundation funding was obtained for "New Project: From Virtual Classroom to Virtual University: Institutionalizing Asynchronous Learning Networks at NJIT." This grant sought to establish ALN as a standard course delivery method throughout the university. Besides continuing the development of the BAIS and the BSCS degree courseware, graduate certificates were created and offered through ALN. At the same time, a program for faculty training was created to support the ALN effort.

This progress outpaced the existing infrastructure of the university. For example, with the majority of communications being conducted via direct dial in, the NJIT modem bank needed to be more than tripled during this period. The significant growth of enrollments challenged the performance of our servers. As more stable computer communications systems, operating systems, and increased access to the Internet became available, NJIT made apparent their commitment to online learning.

With state funds for technology infrastructure improvements becoming available in the late 1990's, there was a requirement for the university to submit a technology master

plan. This requirement, combined with a report issued by “The Executive Committee of the Sloan/ Virtual University Project” set the stage for a major change in the support provided by the university to the faculty integrating technology into their instruction, both face to face and at a distance. These two forces lead to the creation of the “University Information Services and Technology Planning Task Force” in 1997. The task force laid the groundwork for the allocation of funds to support the creation of the STARS program and the funding of an Instructional Designer position in the ITMS department. Significant political and financial support was also to be provided for the development of faculty skills and the support of technology in the classroom and in distance learning.

The support plan included three main areas. First off, training was given in basic computing tools, including MS Office, e-mail, and fundamental web page creation. Advanced training for those interested in utilizing tools such as WebCT was also offered. Secondly, funding for the tools and connectivity to enable faculty to create course materials in their office was allocated. This provided instructors with computers, printers, internet connectivity and similar features for their offices. Finally, the necessary tools and connectivity was provided in the actual classrooms. This ensured that once they produced the materials, they would have the necessary equipment (computers, LCD projectors, wireless connectivity, VCR/DVDs, servers, ect) to able to deliver the instruction.

Today, NJIT supports more than 2200 enrollments in eLearning every semester in more than 100 courses, taught by more than 145 faculty members.

Getting Course Materials Online

At NJIT, our relatively small department (an instructional designer, manager of the Instructional Recourse Center, production assistant, three full time employees in our video department and a director) needs to serve the needs of over 650 full and part-time faculty members. As a result, it is not possible for us to provide one-to-one help to everyone. Similarly, with over 300 courses with online components, it is not possible for our department to be responsible for producing all the content modules needed for these courses. At NJIT, the production of digital video, course CD’s and electronic materials is paid for by the division of Continuing Professional Education.

The ITMS department has come up with three different ways that we are able to support faculty. This includes group instruction open to all faculty and teaching assistants. These sessions can extend over several days, one full day, or several hours. We also arrange specialized training for individual departments and groups on campus. Finally, we also offer individualized one-on-one tutoring sessions. This can include meeting with our instructional designer, video services, a production assistant, or one of our student workers. Most of our efforts are concentrated on helping instructors with little or no experience to begin to integrate technology into their face-to-face courses.

Group Training

Even as NJIT began phasing out their EIES program, it became apparent that there was an increasing demand from students and instructors to acquire course materials and communicate with their classmates online. The university began to use WebBoard, an online threaded discussion tool, to supplement courses. For most of these courses, lectures were distributed by leased videotapes. While there was a core group of instructors, primarily those who had begun the online course movement in Computer and Information Sciences department, that continued to use WebBoard, many instructors were reluctant to teach online because they felt the opportunities were limited by the technology. In response to these concerns NJIT explored alternatives such as BlackBoard, WebCT, and Virtual University just to name a few. Eventually, NJIT decided on WebCT and acquired a site license during the Fall 2000 semester.

In addition to WebCT, NJIT continued to license and support WebBoard. Initially, many of the instructors familiar with WebBoard chose to continue using it to facilitate their course, citing familiarity, and a preference for its discussion tool. In order to appeal to a new group of faculty, we promoted WebCT's ability to host PowerPoint's, the gradebook, calendar, and assignment tool as a way to help instructors facilitate their face-to-face courses.

It proved to be a significant challenge to train the influx of faculty and staff on how to use not just WebCT's tools, but also to become effective online instructors. At the same time, NJIT began organizing their Virtual Teaching Learning and Technology (TLT) group. The TLT is a cooperative effort of Instructional Technology and Media Services, Computing Services, and the Library and its overall mission is to improve the quality and accessibility of education through the selective use of technology and innovative pedagogy. Initially, this group started offering full day sessions on how to both use WebCT as well as become effective online instructors. The goal of these sessions was to help instructors use the available tools to host their lecture material and communicate outside of the classroom.

Registration was required for these institutes to ensure hands-on lab space and because we wanted to create an actual WebCT course for each participant that could be used during and after the training. The first half of these sessions was dedicated to using WebCT from a technical perspective, while the second half focused on effective online teaching strategies. At the end of the institute, evaluations indicated that participants felt that the material, especially the technical sessions, should be covered over an even longer time. However, they also felt comfortable using online technology to some extent in their classes.

The next major event that we organized was a three-day institute that took place during the winter break. This was open to twenty-five faculty and covered topics such as assessment, copyright and plagiarism issues, Flash, WebCT, PowerPoint, learning styles, Camtasia, web design, PhotoShop Elements, RealPresenter, Adobe Acrobat, and others. Because many of those that attended this first event were the early adopters, it was

necessary to devise ways to encourage other less enthusiastic instructors to attend. In order to do so, we successfully applied for funding from the New Jersey Information-Technology Opportunities for the Workforce, Education, and Research (NJ I-TOWER) grant funded by the New Jersey Commission on Higher Education.

Our NJ I-TOWER grant money, which would be available for 2000-2003, is earmarked to support faculty development and the transfer of courses to online learning. This allowed us to provide food, books, microphones and handouts, but most importantly, copies of any software that participants were trained to use. Incentive prizes, such as scanners, printers, and digital cameras, which supported some of the sessions, were also purchased. This not only served as a great motivator (participants received one raffle ticket for each session they attended and evaluated), but further empowered instructors who would not otherwise have had these tools to produce online materials. We saw an increase in the number of courses that had eLearning components such as PowerPoint with audio narration, PDF documents, web pages, and Flash animations.

With the success of these events, some department chairs began encouraging faculty to attend these institutes. The faculty institutes developed into a regular schedule offered three times each year (during academic calendar breaks). After four of these, we had a core group of 100 instructors, many of whom wanted to go further with some of the skills and software packages. We offered our first "Advanced Faculty Institute" in January of 2002 to graduates of one of our prior institutes. While we still distributed software if something new was taught, many instructors indicated that they returned simply because they wanted to continue building upon what they previously learned.

Throughout the school year, the TLT group offers a variety of one to three-hour single topic workshops. Some are for faculty only, (such as instructional design, assessment, problem based learning and anti-plagiarism software) while others are available to staff too. Without the luxury of funds to supply software for these workshops, we focus on pedagogical topics or software that the university has a campus license for, such as Microsoft Visio and Publisher.

Our most recent addition is an "eLearning Overview" course. This three-week course, offered entirely online, is intended to provide instructors with an introduction to eLearning. This course is interesting because it gives instructors the opportunity to experience online learning from a student's perspective, but the content is totally about the issues of teaching online. Two instructors, who had already taught online for more than three semesters, found the experience of being a student in a WebCT class to be the most valuable aspect of the course.

Specialized Departmental Training

When there is significant interest, we will hold training for individual academic departments. We acknowledge that departments can have unique needs, and utilize technology in different ways. Furthermore, some faculty members are just more comfortable when they are learning with their peers. This can help create a support

network within the department, where faculty can look to their peers for advice and support rather than relying upon our staff. It has further enabled some instructors who teach the same course to create and share WebCT quizzes, or even entire course.

Homogeneous group training is not limited to instructors. This approach has been used to train teaching assistants, the Help Desk and Computing Services employees in using WebCT and other campus-wide tools.

One-on-One Training

Once instructors begin feeling comfortable with their new skills, they tend to come to us to find out how to expand their knowledge base. Frequently, these are very course or instructor-specific questions. Some help requires a staff member to work with the instructor for an extended period. In many cases, we recommend that they apply for one of our Student Technology Advisors and Resource Services (STARS) students.

The STARS program was created in 1998 as a reverse-mentoring program for faculty. At NJIT, most students are quite technology-savvy. Faculty members are often the first to admit that their student's knowledge of the Net, web design, hardware, and software exceeds their own. In addition to fostering closer relationships between students and faculty, STARS enables teachers to create web sites, learn image editing, audio and video capture techniques, importing and exporting in a wide variety of formats and many other skills that they can use to deliver course information face-to-face or online. The STARS program began with a formal path of study designed to train faculty to use new computers that were issued to them at the conclusion. In the past two years, it has evolved into a less formal program, allowing teachers to create their own path and pace for those skills they would like to learn. Most faculty members meet for a semester on a weekly basis for at least one hour with their STARS coach in our training lab.

Once instructors have been using the technology for several semesters, it is not unusual for them to decide that they can offer the course entirely online. In many cases, this transition is relatively easy, because they already have many of the materials created and only need to have them put onto a CD for distribution or into a WebCT course. While this stepping process is not the fastest approach (it's recommended that instructors have 2-4 semesters before moving online), they do feel comfortable making the transition.

Realistically, there are always going to be instructors that will be either unwilling or unable to attend our training events, and yet they will find that they need to utilize these unfamiliar tools. In this event, our staff still meets one-on-one with the instructor. Similarly, there are always going to be instructors that do not want to incorporate new technologies into their classes. While we may be unsuccessful at reaching that population, many times it is the students or a department chair that will have more luck "encouraging" them to try eLearning.

Where We Are Now

While we have been very successful getting instructors to embrace new technology (over 175 instructors are using WebCT in just over two years), there are still obstacles we are struggling with. The size of our professional staff and the number of new courses being created does not allow us to examine each course put online, or to work with every instructor. It has been particularly difficult to meet with professionals in industry who serve as adjuncts for online courses since they rarely, if ever, come on campus. Though we have established templates for PowerPoint's, an interface for CD-ROM courseware and WebCT course shells, faculty members are given a lot of freedom in design. Consequently, when we discover that an instructor is using only one discussion topic for the entire course's discussion board, or that there are PowerPoint slides that would work well on a classroom wall, but are indiscernible on a monitor, we are frustrated. Any instructor can request to use a WebBoard or WebCT course without having *any* experience with the software or online learning. ITMS at NJIT is a department within the division of Continuing and Professional Education. This means that we also help design courses that are offered as non-credit, for certification and as corporate training.

Conclusion

Our long-term, stepping approach to bringing faculty to using asynchronous learning and online tools has grown out of over thirty years of experiences. The initial efforts in this area were focused on technology which caused the university's infrastructure to rethink its strategies in order to accommodate online learning. When the software and hardware were at a level that allowed easier access for faculty and students, the focus was able to turn to faculty training and support. During the past five years, that training and support has become the focus of NJIT's eLearning program. Today, the purchase of eLearning software, courseware and additional hardware is driven mainly by faculty and student needs. This reversal of the earliest efforts is a most welcome change for our faculty.