Evolution of Faculty Web Page and Video Skills: A P^3T^3 Case Study

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Abstract A primary mission of staff working with the Purdue Program to Prepare Tomorrow's Teachers to Use Technology Project (P^3T^3) is to train faculty members in the School of Education to use technology and serve as mentors during the learning process. This study was initiated to investigate how select faculty members evolved as they integrated technology into their work, how they perceived technology integration, and how effective and efficient their strategies were to use technology in their teaching. In addition, existing problems in faculty training, and inefficient processes in technology integration were investigated. The authors provide tentative solutions to these problems and suggestions for possible early intervention in an effort to prevent similar problems in the future.

Introduction

Among other goals, the Purdue Program to Prepare Tomorrow's Teachers to Use Technology (P^3T^3) is designed to prepare pre-service teachers to demonstrate fundamental technology competencies, and prepare teacher education faculty to teach pre-service teachers in technology-rich environments by modeling approaches that future teachers should use themselves. In order to achieve this goal, P^3T^3 incorporates a comprehensive faculty development and mentoring program, which is the focus of this paper. P^3T^3 combines workshops, training sessions, and one-on-one mentoring. Workshops, which are conducted at the beginning of each semester and during summer breaks, consist of a two-day "start-up" session followed by three or more days of focused skills development. In the first two days participating faculty members engage in problem-based learning activities involving technology integration. This is followed by previews of technology skills development workshops and consideration of models of technology integration in education. At the conclusion of the "start-up" sessions, faculty members develop and share personal technology integration plans. Based upon the technology integration plan, a graduate student – skilled in the appropriate software/hardware to meet the goals of the faculty member – is assigned to provide optimal mentoring throughout the integration of technology into teaching during the following academic year. Subsequent sessions include workshops on WebCT, PowerPoint, FrontPage, and Dreamweaver, and "how to" sessions focusing on the use of digital video, digital photography, HTML programming language, and Purdue's career account system (supporting centrally managed storage for files and web pages).

Through workshop and personal mentor training provided by the P^3T^3 graduate assistants, some faculty made great strides in the development of technology skills. Others attended the same workshops but encountered major struggles and challenges as they attempted to incorporate technology into their courses. A few faculty members chose to continue their curriculum in the same manner as it always was – without the addition of new technology. What are the reasons for this broad spectrum of use? Why did some faculty members perform exceptionally well? Why did some find the challenges so overwhelming? And why are there still faculty members who choose not to use technology?

Theoretical Framework

Considering the rapid pace of development in educational technologies, coupled with innovations in teaching and learning, utilizing technology is high on the list of priorities of educational managers, administrators and operatives. Sandholtz et al. (1997) noted the use of technology is recognized as a valuable tool – making technology more common while developing it to enhance teaching and learning. However, Brand (1998) found that despite increased access to computers and related technology, educators are experiencing difficulty in combining technology into classroom teaching practice. Training and mentoring provide two major incentives in aiding faculty to successfully integrate technology in teaching (Dusick, 1998; Dusick & Yildirim, 2000).

Methodology

This research relied on case studies conducted by two of the authors. Both of us are proficient technology users and work as graduate assistants in the P^3T^3 program. We serve as mentors for the faculty members and have been involved with the project since it's inception in the summer of 2000.

Through an interview process, we videotaped or tape recorded responses from three faculty members and a teaching assistant. Two additional faculty members included in this paper were not interviewed, but information was recorded from interviews with the P^3T^3 assistant assigned as their mentor. Completed faculty projects were also used as a source of information for the subjects – websites and edited video projects provide evidence of faculty involvement with technology. Subjects were selected to include those who successfully learned and integrated technology and those who chose not to make changes. The faculty members have been teaching from 10 to 37 years in K-12 and higher education. One faculty member was proficient with technology, but the others were at various developmental stages of computer skills. For the purposes of this study, they were categorized into two groups: those who used web design software to develop websites, and those who attempted to incorporate video into their curriculum or course presentations. We conducted the interviews to explore faculty member attitudes toward technology integration, the strategies they used to learn the technology and integrate it into their teaching, and to determine the challenges they faced as they incorporated the new skills.

Website Integration

Three faculty members were interviewed about website integration. Two had no prior experience with website development but the third was familiar with website design, as she maintains her own website.

Successes

Dr. F. has been a professor in the School of Education for more than 10 years. After attending the faculty workshops, with the help of her P^3T^3 mentor she created her own web pages and a separate website related to her research interests. Professor F. stated, "There are several people I work with that use web pages… It's very convenient for me to get information. Web pages look like the information source. The assistance I get from P^3T^3…definitely impacted me to have my own web page. I don't have the technical skills to do

it, but after I went to the Dreamweaver workshop, I know what I can do." Dr. A. had been an administrator in the K-12 school setting for more than 30 years. He has been a Professor in the School of Education for three years. Like Dr. F., he created his web pages with the help of his P^3T^3 mentor after attending the faculty workshops. Dr. A. stated, "I use the web a lot in my work area…this university is a highly-technology involved university. Both of these are motivations for me to create a website for myself." Dr. E. has more than 5 years of experience as a professor in the School of Education. Recognizing the value of the web as a communication tool for her students, her associates at other universities, and the outside world even before the P^3T^3 project began, she employed a graduate assistant to create her own website. After attending the P^3T^3 workshops, he was excited about converting her designs from FrontPage on a PC operating system to Dreamweaver on the Macintosh platform. With positive reinforcement from her P^3T^3 mentor and technical help when she needs it, she has plans underway to transfer the pages to the new format rather than recreating the pages in a new website.

Challenges

Some challenges were more easily solved than others. Dr. A. was faced with the introduction of web-editing software that was different from the one he had originally learned. He stated, "The changing of the software forced me to learn the new technology. However, it'll be a long process for me to learn and update the new software." Dr. F. stated, "Faculty's time is very tight." Dr. E. agreed and also stated that she is a Mac user; however some web design software, like FrontPage, is just for the PC. Her need for P^3T^3 assistance occurred when she found a need to update her current site. She approached a P^3T^3 assistant and together they experienced a great deal of difficulty making edits, even when working on the platform used to create the pages. Because the grad student who made the original site was no longer available for advice about specific programming, editing was neither efficient nor easy. After unsuccessful attempts to edit the pages in a manner the faculty member could understand and duplicate, the P^3T^3 mentor recognized the faculty member's confusion and frustration. The mentor chose to work on the site alone, read the HTML coding, identify the problems associated with the programming, and save new documents. When the mentor and Dr. E. met again, Dr. E. successfully updated the new documents. The mentor's decision to work on the project alone prevented Dr. E. from becoming frustrated to a point of choosing not to make future changes. If she had faced the problems alone, they may have been overwhelming. By finding the problems and creating documents that could be more easily edited, the mentor helped the faculty member gain experience and confidence. Currently she needs little more than occasional help for her updates.

Impact of P^3T^3

Professor F. stated, "Without the assistance of P^3T^3, I don't know if I would have created [a site] or not. I got hands-on experience, and specific handouts in the workshop; I get back and use it. After the workshop, I got individualized help from P^3T^3. P^3T^3 provided me encouragement, support, a sense of 'can-do' confidence." Professor A. stated, "The P^3T^3 assistant has been indispensable for me to put that [site] on. [She] helped me a lot. It would not be on so quickly, in such a quality without [her] help. I really appreciate [the] help." In contrast, Professor E. stated, "I went to a couple of FrontPage workshops, but they didn't get to the level and skills I needed. They just start teaching how to create a new page, how to insert graphics." P3T3 one-on-one mentoring provided the required help.

As P^3T^3 mentors work with faculty, we must strive to help them determine the correct software before their projects begin. When projects are already underway, we must recognize when faculty members become frustrated and find ways to minimize the frustration and provide alternatives to motivate the faculty to continue making personal technical advancements. We must also meet the needs of faculty who already have some expertise but desire to learn skills beyond those taught in beginning workshops.

Video Editing

Several faculty members showed interest in adding video to their coursework after viewing a demonstration using iMovie on a Macintosh to make a video clip from a digital camera. Four faculty members subsequently purchased digital video cameras with a stipend provided from the P^3T^3 project. Others

decided to use one of 14 cameras already available in the department. A variety of results occurred from the purchase of these cameras and the incorporation of digital videos. One faculty member and one teaching assistant were interviewed for this case study, as well as two P^3T^3 assistants working as a faculty mentors.

Successes

Teaching Assistant Mrs. L taped an interview with a Master Teacher in a K-12 classroom and desired to edit the tape prior to introducing the teacher to her students. She was immediately provided with personnel resources and training to complete the work within her timeline. The result was a teaching assistant with a new skill, and a polished final product that succeeded in meeting her objectives. Dr. E. first became involved with video through a 3-year project she headed in the Educational Technology Department – a few years before the P^3T^3 project began. Although she had extensive experience with video, she took a more personal interest in adding it to her curriculum when she saw the ease of digital video editing as presented in the P^3T^3 workshops. As a direct result, she purchased a digital camera and began working with it herself without the aid of her mentor. Soon she was editing the videos and she currently has plans to incorporate video in her classroom in the future.

Challenges

Even though Mrs. L. is a new teaching assistant in the School of Education, she set her project into motion with a set of clearly defined goals. However, she didn't realize the amount of video-editing time required to meet her goals. With her new responsibilities and minimal free time she was overwhelmed with the task she needed to accomplish. Professor G, a 17-year faculty member at Purdue, wanted to use video to document his research, but he became disinterested when he found that he could not use his video camera to download still photos to his Macintosh due to platform issues. Professor C, a Visiting Professor in the School, attended a P^3T^3 faculty workshop session designed to build computer skills through the use of hands-on training but experienced difficulty during the sessions. She commented that she did not learn skills when she was guided through each "point and click." Even though she wasn't comfortable with her own use of the technology, she realized its importance to the students so she added a video assignment to her undergraduate course curriculum. While this project had great potential, neither she nor her course instructors had the skills to support the activity. When it became clear that P^3T^3 staff would be unable to provide support for more than 400 students since the P^3T^3 project concentrates on faculty development, Dr. C. changed the assignment and made it clear to P^3T^3 staff that her teachers were too busy teaching course content – that "they don't have the time to teach technology."

Impact Of P^3T^3

Each instructor had different reasons to use video – personal research, interviewing guests, curriculum enhancement, and challenging students. Professors G and C do not have plans to continue using video at this time. Some of their setback lies in their lack of research and quick decision-making. Dr. G purchased a camcorder before realizing it did not fit his needs, and Dr. C assigned a student project before verifying resources for support. Ms. L. was overwhelmed by the amount of work necessary to edit the tape, and didn't plan enough time to do it by herself, but she communicated her needs effectively and P^3T^3 was able to obtain help so she could meet her goals. Each of these instructors had limited experience with technology. On the other hand, "Dr. E." is technology proficient and realized she needed to take time with a camera and learn to use it prior to adding the component to her classroom, choosing a slower path without the need to discuss it with her P^3T^3 mentor.

It is easy to become motivated to learn a new skill when opportunities arise, and experienced P^3T^3 assistants make the technology appear simple. However, learning a new skill takes time; two of the faculty members lost motivation when they learned that their goals had a price that was too high (in time and/or the requirement to learn and teach a new skill). In the future, as P^3T^3 introduces new technology, we can learn from the two faculty members who were successful. We need to recognize signs that instructors are

planning unattainable goals and try to more effectively communicate the time and resources necessary to integrate new technologies so that the instructors have a better chance of success in developing realistic goals in the future.

Outcomes

The study shares successes for some faculty, but more importantly it identifies problems for faculty that include frustration during "point and click" hands-on workshops, platform-dependent issues, lack of awareness of the scope of some technology-integration issues, and a need for better pre-planning. Workshop instructors and mentors must analyze their audience/mentees and strive to meet their needs rather than assume all learners need basic skills. For example, let the participants bring questions and specific needs or challenges to the workshops. Help them understand what they can achieve at the end of their training. When tasks appear to be as simple as a "point and click" P^3T^3 staff must be capable of explaining the learning curve necessary to become proficient with the software and hardware. Most of the workshops are conducted on PC computers, and skills may not translate easily to Macs. Although many software programs are seamless today, there are issues when older versions of software are used, and these issues should be addressed. Mentors have an obligation to give faculty confidence in themselves by helping them determine realistic tasks using reasonable time and effort while using the appropriate equipment to meet their goals. Faculty must to be able to practice and use their new skills in their own time on their own computers so they are motivated to continue to increase their skills and become independent users of the technology who no longer need assistance. With the new skills, they will develop their curriculum to include technology designed for teachers of the future, and those of us involved with the P^3T^3 project will have met our goals.

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