Making It Better – Our Faculty and Ourselves: A P3T3 Case Study of Web Design and Video Integration

Pamela A. White
Purdue University
100 N. University Street
Beering Hall of Liberal Arts & Education
West Lafayette, IN 47907-1442
whitepl@purdue.edu

Chaoyan Dong
Purdue University
100 N. University Street
Beering Hall of Liberal Arts & Education
West Lafayette, IN 47907-1442
dongc@purdue.edu

James D. Lehman
Purdue University
100 N. University Street
Beering Hall of Liberal Arts & Education
West Lafayette, IN 47907-1442
lehman@purdue.edu

Abstract The staff of the P3T3 project have a primary mission to train and mentor faculty members in the School of Education as they assimilate technology in instruction. This study investigates the evolution of select faculty members; how did they 1) integrate technology, 2) perceive technology, and 3) implement technology effectively? In addition, existing problems in faculty training and inefficient processes in technology integration are investigated. The authors provide suggestions for early prevention of similar future problems.

Introduction

During the past two and a half years Purdue's Program to Prepare Tomorrow's Teachers to Use Technology (P^3T^3) has been preparing 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 incorporated a comprehensive faculty development and mentoring program, which is as individual as the faculty members themselves. P^3T^3 combined workshops, training sessions, and one-on-one mentoring to allow each faculty member the opportunity to use their own learning style to expand their use of technology in the classroom. Workshops consisted of a two-day "start-up" session followed by three days of focused skills development and were held at the beginning of each semester and during summer breaks. Participating faculty members engaged in problem-based learning activities involving technology integration and previewed future offerings of technology skills development workshops. They also had opportunities to view models of technology integration in education. At the conclusion of the "start-up" sessions, faculty members developed and shared 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 – was assigned to provide optimal mentoring throughout the integration of technology into teaching during the subsequent academic year. Technology skills development workshops have been held (and are still being offered.) which 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 the School of Education's

ePortfolio system and the Purdue career account system (supporting centrally managed storage for files and web pages).

Through these workshops and personal mentor training provided by the P[3]T[3] graduate assistants, some faculty made great strides in the development of technology skills. Others attended the 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. This study investigates the evolution of select faculty members; how did they 1) integrate technology, 2) perceive technology, and 3) implement technology effectively? In addition, existing problems in faculty training and inefficient processes in technology integration are examined.

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 are proficient technology users and worked as graduate assistants in the P[3]T[3] program. They served as mentors for the faculty members and became a part of the project at its inception in the summer of 2000. One continues to work with the faculty members through the third year in the grant.

Through an interview process, responses from three faculty members and a teaching assistant were videotaped or tape-recorded. Two additional faculty members included in the data were not interviewed, but information about their technology use was obtained from interviews with their personal P[3]T[3] 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. Selected subjects included individuals who successfully learned and integrated technology as well as individuals who chose not to make changes. The faculty members have been teaching from 10 to 37 years in K-12 and higher education. A variety of developmental stages with computer skills were targeted One faculty member was proficient with technology, but the others were at different levels of expertise. For the purposes of this study, they were categorized into two groups: website designers (using software and their own abilities to program the pages), and innovators who attempted to use video in their curriculum or course presentations. The interviews were conducted 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 their website design experiences. Two had no prior knowledge of website development but the third supervised a graduate student in the development of her site and maintains her own website.

Successes

Each member of the faculty who was interviewed met success in their ability to learn the process of website programming and management. Some were able to use the tools and make their pages more engaging, but all of the sites met or exceeded the faculty member's expectations. The professors in this study each attended a faculty workshop and began their individual website projects because they felt there was an

excellent opportunity to enhance their skills with a personal mentor. A professor in the School of Education for more than 10 years, Dr. F. enlisted the help of her P³T³ mentor she created her own professional web site as well as a second one dedicated 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 P³T³…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. was an administrator in the K-12 school setting for more than 30 years. He has been a Professor in the School of Education for four years. Like Dr. F., he created his web pages with the help of his P³T³ mentor after attending a faculty workshop. He 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. She recognized the value of the web as a communication tool for her students, her associates at other universities, and the outside world even before the P³T³ project began. She employed a graduate assistant to create her own website using FrontPage on a PC, but was often frustrated when she tried to edit the pages using a Macintosh computer because the version of FrontPage available on the Mac was not updated at the same pace as PC software. After the offer of technical assistance from P3T3, she was excited about converting her designs from the PC system to Dreamweaver on the Macintosh platform. With positive reinforcement from her P³T³ mentor and technical help when she needed it, she found it possible to transferred the pages to the new format rather than recreating the pages in a new website, and has used her own artistic skills to reflect her personality throughout the site.

Challenges
Because of their unique skills, software, systems and desires for programming, some challenges were more easily solved than others. Comments from faculty members throughout the department – even those not included in this interview are frustrated with the lack of time available to learn technology. Although the workshops are offered, they must make arrangements to dedicate their time to attending. 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 updated only on the PC platform. Her need for P³T³ assistance occurred when she found a need to update her current site. She approached a P³T³ assistant and even though together they had a great deal of skill and working knowledge of technology, they experienced tremendous difficulty making edits, even when working on the platform that was originally used to create the pages. As previously mentioned, a grad student had originally programmed the site, and he was no longer available to ask about specific programming. This meant editing was neither efficient nor easy. Unsuccessful attempts were made to edit the pages in a manner the faculty member could understand and duplicate; there were simply too many variables. Nothing was consistent. The P³T³ mentor recognized the faculty member's confusion and frustration as they tried to work on the site together. The mentor chose to work on the site alone, read the HTML coding, identify the problems associated with the programming, and save new documents that were easier for the faculty member to edit. When the mentor and Dr. E. met again, the new documents were successfully updated. The mentor's decision to work on the project alone reduced Dr. E's. frustration and prevented possible faculty burnout, which would have eliminated the desire to make future changes. If Dr. E. 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.

Dr. A. was already familiar with specific web-editing software but he was faced with a different software when he began creating his site because of support limitations. 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."

Impact of P³T³
In each of the case studies, P3T3 had a direct impact on the success of the faculty project. Their testimonials indicate their satisfaction in working with their mentors, and reaching their personal goals in website integration. Professor F. stated, "Without the assistance of P³T³, 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 P³T³. P³T³ provided me encouragement, support, a

sense of 'can-do' confidence." Professor A. stated, "The P³T³ 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." Because she was already proficient in these simplistic tasks, she found the P³T³ one-on-one mentoring provided the required, more advanced help.

As P³T³ mentors work with faculty, the goal remains to help the faculty member determine the correct software before their projects begin. When projects are already underway, mentors must watch for signs indicating when faculty members become frustrated and search for ways to minimize the frustration while providing alternative methods and tools for motivations so that the faculty members will to continue making personal technical advancements. Faculty who already have some expertise but desire to learn skills beyond those taught in beginning workshops, have needs very different from the beginner, but those needs must also be met if the project is to be successful.

Video Editing

During the P3T3 beginning workshops, iMovie on a Macintosh was introduced as a quick and easy tool to add video into the curriculum. Several faculty members showed interest in attempting to make a video clip from a digital camera that could be used in the classroom or archived as part of a portfolio. Four faculty members subsequently purchased digital video cameras with a stipend provided from the P³T³ project. 14 cameras are available in the department, so anyone with the desire to take and edit a video has the opportunity to do so. A variety of results occurred from the purchase of these cameras and the faculty recording, editing, and incorporation of digital videos. Four faculty members were targeted for this case study. One faculty member and one teaching assistant were interviewed, as well as two P³T³ assistants working as a faculty mentors.

Successes

Mrs. L., a teaching assistant taped an interview with a Master Teacher in a K-12 classroom setting as a method to introduce the teacher to her students. By taping the interview, the students could see the teacher in her own setting, surrounded by her "teaching world." Mrs. L. wanted to edit the tape prior to introducing the teacher to her students but didn't realize the commitment of time that was required to accomplish her goal. She was immediately provided with personnel resources and training to help her 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 P³T³ 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 P³T³ 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. was 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 those goals. With her new responsibilities and minimal free time she was overwhelmed with the task of editing 60 minutes of video footage. Professor G, a 17-year faculty member at Purdue, wanted to use video to document his research, but he became apathetic when he found that he could not use his video camera to download still photos to his Macintosh due to platform incompatibility. Professor C, a Visiting Professor in the School, was truly interested in incorporating video in her student assignments, but she was personally technically challenged. She attended a P³T³ 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 significance for her students so she created a lesson plan which included a video assignment for her undergraduates. While this project had

great potential, neither she nor her course instructors had the technical skills to support the activity, and there were more than 400 students who would need assistance. When it became clear that P^3T^3 staff would be unable to provide support, Dr. C. changed the assignment. She also complained to P^3T^3 staff that her teaching assistants should not be expected to support the technology. She said that they were already too busy teaching course content – that "they don't have the time to teach technology."

Impact Of P^3T^3
Each of the four instructors had different reasons to use video – personal research, interviewing guests, curriculum enhancement, and to challenge students with technology. Professors G and C do not have plans to continue using video at this time. Their lack of research and quick decision-making affected their satisfaction with this tool's integration. 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. In a similar way, Ms. L. was overwhelmed by the amount of work necessary to edit the tape, and didn't plan enough time to do it alone, but she communicated her needs effectively and the P^3T^3 staff were able to help her meet her goals. Each of these three 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 - and she did this without the advise of her P^3T^3 mentor.

In the hands of experienced P^3T^3 assistants, technology appear simple. It was easy for faculty members to become motivated to learn a new skill when opportunities arise. However, learning a new skill takes time and commitment. Unfortunately; 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). Since these experiences, as P^3T^3 introduces new technology, we remember the two faculty members who were successful. We have become more aware of signs that instructors are planning unattainable goals and try to more effectively communicate the time and resource commitments necessary to integrate these new technologies so that instructors have a better chance of success in developing realistic goals for their future endeavors.

Outcomes
This case study shares successes for some faculty, but more importantly, it identifies problems - including frustration when using psychomotor "point and click" hands-on workshops, platform-dependent issues, lack of awareness of the scope of technology-integration issues, and a need for better pre-planning. When attempting faculty training instructors and mentors must analyze their audience/mentees and strive to meet their needs. It easy to assume all learners need basic skills. It would be beneficial to 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, and engage them in dreaming of endless possibilities for future integration. 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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Acknowledgements