Purdue University School of Education
P3T3 Project: Year Two
Report of the External Evaluation Team
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Introduction

Purdue University's School of Education is nearing the completion of the second year of its U.S. Department of Education funded P3T3 grant. Under the direction of Prof. James D. Lehman the Purdue Program for Preparing Tomorrow's Teachers to use Technology (P3T3) has two major interrelated goals:

> (1) To prepare teacher education faculty in Education, Science and Liberal Arts to teach pre-service teachers in technology-rich environments, modeling approaches that future teachers should use themselves; and (2) to prepare pre-service teachers to demonstrate fundamental technology competencies, using technology as a tool for teaching/learning, personal productivity, communication, and reflection on their teaching.

The project seeks to meet these goals by focusing on three mutually supportive components:

> (a) Pre-service teachers will be taught by technology proficient faculty who participate in a comprehensive faculty development program in which they learn new teaching/learning technologies and practice using them with mentoring and technical support leading to lasting technology integration into teacher education courses; (b) pre-service teachers will participate in rich and diverse field experience enabled and enhanced through the use of technology; and (c) a dynamic assessment system will provide pre-service teachers the tools and opportunities to select multiple ways of viewing their evolving teaching practice, reflect on that practice, and use digital representations to meet performance-based assessments as they build digital multimedia portfolios. (P3T3 Proposal Abstract, p. l)

At the end of year one of the project the external evaluation team spent two days (June 5-7, 2001) on the Purdue campus interviewing key project personnel, administrators, faculty,

public school teachers associated with the project and students. The team also reviewed the project proposal, related documents and reports, the P3T3 web site, and briefly observed a faculty development workshop and the technology resources available within the School of Education for faculty and student use. In our first year evaluation report we commended the P3T3 leaders for the project's overall progress and offered several recommendations and suggestions that have been successfully addressed. This year the external evaluation team visited the project site April 3-5 and we are pleased to note the continuing progress being made. In this report we describe our observations, assessments and recommendations in three broad categories: (1) Project Progress; (2) Challenges; and (3) Recommendations.

Project Progress

Significant progress has been made in meeting the two overall goals of the project. Even though a Co-PI left the University and the Dean retired, project staff and the faculty and staff of the College have continued the momentum begun last year.

Faculty Development. Faculty development workshops in using technology have engaged about 70 percent of the School of Education faculty as well as a small number of faculty from the School of Liberal Arts and Science, and K-12 teachers from partner schools. Faculty members we interviewed enthusiastically endorse the workshops and indicate that they are now using digital and web-based technology in their teaching. This view is supported by internal evaluation survey data in which 90 percent of the students surveyed (N=286) confirm that professors use technology in their classes. This finding is a complete reversal of the data available to the evaluation team last year regarding faculty and student perception of technology use in their classrooms. At that time faculty had a more positive view of technology integration in their classes than did students. This year students surveyed indicate that faculty use

technology in their classrooms to a much higher degree than faculty themselves. Types of technology used include e-mail, Power Point, Web CT, Digital video/camera, video conferencing, individual class websites, the World Wide Web, listserves, and spreadsheets.

Clearly the knowledge gained by faculty in the technology integration in course workshops and the follow-up technical assistance available to faculty by graduate TA' s, are having a positive effect. Based on our interviews of the four TA's working with the project, we surmise that they are a very knowledgeable and committed group who are energized by the successes they have had helping facu1ty to whom they have been assigned. Faculty members likewise acknowledge the significance of their role.

Further indication of faculty development in integrating technology in the classroom is noted by the faculty led "Techie Talks" that were scheduled throughout the winter semester. Although we discovered that these 30-45 minute brown bag presentations held during the noon hour have not been well attended, we strongly urge their continuance. Perhaps providing lunch will entice greater attendance. Brief presentations might also be made at School of Education or departmental meetings.

Significant progress has been made in developing, reinforcing and expanding faculty skills and confidence in using technology in their classes. Yet, we note that only about two-thirds of the School of Education teacher education program faculty members have participated in the integration of technology workshops. The reasons for the lack of participation of the remaining one-third of the faculty are not clear. It is imperative, however, that every effort is made to encourage these faculty members to become involved in the School of Education teacher education reform program, which involves modeling the use of technology in classes for pre-service teachers as well as for assessment purposes.

E-Portfolio. The project is commended for the considerable progress made in developing the Purdue e-Portfolio system. We were impressed not only with the technical sophistication of the e-Portfolio, as it has evolved, but also with the initial work on content to be included in the portfolio. Linked to Purdue's unit assessment system and to state and national standards, as represented by the INTASC principles, full implementation of the e-Portfolio system is planned for Fall 2002.

As a major component of the P3T3 project, the e-Portfolio system is designed to provide students with multiple ways to display knowledge acquired as developing teachers, the opportunity to reflect on that knowledge as well as teaching practice, and the skills necessary to use digitized files and artifacts approved by faculty to meet performance-based program standards. The e-Portfolio also may serve to assist students in securing job placements and in obtaining professional certification.

It was readily apparent from our interviews and chance encounters with students that both teacher education students and faculty are aware of the centrality of the e-Portfolio in the program. Students have already begun to develop electronic files for their portfolios and faculty are recognizing their responsibility to approve student developed files and artifacts as course requirements and as representations of program blocks or gates. Impressive is the fact that the elementary education faculty members have adopted a set of guidelines to assess and approve, as appropriate, student artifacts that satisfy courses in the first (A) of the four Gates that must be satisfied for program completion. We are concerned, however, that a similar action has not yet been forthcoming from the secondary education program faculty. Reasons that account for this circumstance should be addressed forthrightly, particularly since the full implementation of the e-Portfolio system is scheduled for the fall semester of this year.

Program Infrastructure. In our review of the P3T3 program last year we noted the high quality and availability of digital technologies within the School of Education for faculty and student use. We are no less impressed this year. Technical resources within the School of Education are excellent and of sufficient quantity to meet both student and faculty needs. Support staff, TA's and other specialists who work with the project are equally impressive and appear to be fully committed to the success of the project.

Linkages to Schools. Because of the limited availability of geographically diverse K-12 school sites in which teacher education majors can be placed for developmental field experiences the P3T3 project works with several partner schools to create appropriate opportunities to meet this need. Through the use of Distance Education technology several projects are underway that involve classrooms in four partner school districts. Purdue's teacher education students have been able to observe, discuss and critique K-12 classroom interactions and teaching in several schools in these districts using Polycom Via Video equipment. The evaluation team witnessed one presentation of a partner school classroom P3T3 project: The Rube Goldberg project. The purpose of this project was to share web-based instruction on metric measurement and simple machines. The outcome was the development of a Rube Goldberg type machine to trap mice by a group of 5th grade students. The project demonstrated the efficacy of Distance Education using Polycom Via Video, particularly as related to interactive learning environments and application sharing. Problematic were visual clarity and the ability to effectively involve large groups of students. The Distance Education director and coordinator for this project are aware of these issues. To the extent that these can be ameliorated will be a significant contribution to the field of Distance Education.

The project also has addressed the Right to Privacy issue regarding the use of students in videos and photographs to be used in class discussions and demonstrations. The "Purdue University School of Education Video and/or Photo Release Form" and the "Purdue University School of Education Video Project Release Form" which must be signed respectively by Purdue students or the parents/guardian of K-12 students are clearly necessary and wholeheartedly endorsed by the evaluation team.

Internal/External Communications. Regularly published news briefs, Power Point presentations, School of Education reports and newsletters, a local newspaper article, technology workshops, noon hour "Techie Talks", and P3T3 project brochures along with web-based information are excellent and easily accessible by any one interested in the project. In addition, and important, Purdue University chose to highlight the P3T3 project as the feature TV spotlight allotted to it during the live broadcast of one of its basketball games. Project faculty members have also participated in a number of national conferences where they presented information about the project.

In the view of the evaluation team the internal/external communication outlets used to inform the institutional and broad public about this project are fundamental to building and maintaining institutional, professional and public support and interest. The publications and TV spotlight clip we viewed are of high quality, as are the interactive sessions and web-based information noted above. Opportunities to continue and expand the use of such communication outlets will, we believe, return significant dividends to the project and to the School of Education.

Challenges

As the project enters the third and final year of U.S. Department of Education funding and the School of Education implements the full use of the e-Portfolio in its teacher education program several challenges must be addressed. Below we address three that we believe are critical.

Funding. Given the possibility that the U.S. Department of Education will reduce overall project funding for the third and final year, the Project, if possible, should seek supplemental funding from campus sources and the State Department of Education. Moreover, given the importance of technology to teaching, learning and assessment in the restructured School of Education's teacher education program it is essential that the P3T3 project continue until all teacher education faculty and students are fully conversant with the Purdue e-Portfolio system. In all probability, therefore, support funding will be required well beyond the project's third and final year of federal funding.

Project Administration. At the end of the project's first year one of the Co-PI's accepted a position at another university. Thus, the responsibility for directing the entire project has fallen on the shoulders of Prof. James Lehman in addition to his teaching, research and advising roles. It is apparent to the evaluation team that there is more than enough activity required in the project to demand Co-Directors. Prof. Lehman recognizes this and is hopeful that assistance will be forthcoming in the coming year. With anticipated budget cuts this may not be easily addressed. We hope that at a minimum level the School of Education might permit an existing or new faculty member to assume the Co-Director position as a part of expected workload.

Assessment of Student Performance on Educational Proficiencies. The e-Portfolio will serve as the vehicle to assess student progress in meeting state academic and national (INT ASC)

standards. That being the case, in assessing student progress in meeting each standard it will be necessary to ascertain performance levels at different time periods. It is logical to assume that a student's knowledge about teaching will be more advanced at year four than at year two. Hence, to distinguish level of attainment for the various standards consideration should be given to using a three or four level scale of proficiency. Such a scale might designate a student's awareness, understanding, or demonstration of each standard they are required to meet in the teacher education program. Alternatively, designation of knowledge might be described as entering, emerging, developing, or proficient as suggested in some of the literature project leaders have examined. In our view, if the e-Portfolio were to accurately display student progress toward meeting state and national teaching standards, then it would be desirable to implement some scale of preparedness. It also will be necessary to not only teach the technical skills related to how to insert artifacts into an e-portfolio, but also how to make decisions about what should be included.

Recommendations

In our estimation the P3T3 project has made excellent progress to date and there is every reason to believe that it will continue to meet its goals and objectives. We offer several recommendations to enhance the outstanding work manifested to date, in part, by the accomplishments already noted. We recommend that:

1. E-Portfolio:

    - The protocols for approving e-Portfolio files, artifacts and gates are uniform for both elementary and secondary teacher education faculties.

- The Director of the School of Education's Office of Professional Preparation and Licensure become more intimately involved in the final development of the e-Portfolio as a component of the state required Unit Assessment System.

- Some method to expand the volume of files and artifacts included in the e-Portfolio that a student may wish to use for personal reasons beyond the 650mb currently allocated to them be explored.

- Commercial avenues to market the e-Portfolio are actively pursued. Given the growing advocacy of e-Portfolios for the assessment of pre-service teachers it is likely that State Departments of Education and school districts will be interested in the exemplary model developed in the P3T3 project. To familiarize potentially interested individuals and groups with the Purdue e-Portfolio system arrangements should be made to demonstrate it at National, e.g., AACTE, and State Education Association meetings.

2. Budget cuts, expected and unexpected:

- School of Education and campus resources are vigorously explored for possible funding assistance.

- Efforts are made to acquire grants from the State Department of Education.

- Project consortium partners and State-based Foundations are approached to secure supplemental funding as feasible.

3. Personnel:

- Every effort is made to appoint a Co-director to the project.

- The current number of support staff is maintained throughout the third year of the project and beyond.

4.   Internal Evaluation:

- The excellent survey data collected on technology use and proficiency are reported by student class level within teacher education program emphasis, i.e. elementary or secondary, in the future.

- Mini-case studies documenting project successes, failures, and unintended consequences are undertaken with respect to faculty development, teacher education program reform, and faculty willingness or resistance to change.

- Data are collected, analyzed and reported on the degree to which technology-based field experiences satisfy the requirement for diversity within overall program parameters for all teacher education students.

5.   Education Curriculum and Instruction Courses 270, 271, 205:

- These courses are reviewed to determine what technology skills are needed prior to enrollment and whether or not students may test out of any course teaching those skills.

6.   Demonstrate project success on K-12 student performance:

- The project seeks examples to demonstrate teaching proficiency or effectiveness linked to K-12 student academic outcomes in the e-portfolios as well as through thoughtful descriptive case studies. The success of the School of Education's restructured teacher education program will depend on whether or not pre-service teachers ultimately have a positive effect on student performance in K-12 schools.

Concluding Thoughts

The Purdue P3T3 project is outstanding in every respect. It enjoys superb leadership and is fortunate to have very talented and committed staff working diligently to accomplish project goals and objectives. It enjoyed strong support from the former and interim deans of the School of Education and it is our hope that this level of support will be forthcoming from the new dean yet to be appointed. The P3T3 project serves well Purdue's restructured teacher education program presently and will for years to come.