Mentoring University Faculty to Become High Quality Online Educators: A Program Evaluation

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Abstract

This study summarizes the results of a program evaluation of the Distance Education Mentoring Program (DEMP), an ongoing initiative at Purdue University Calumet, Indiana (USA) designed to enhance the development of online courses by mentoring faculty in instructional design principles and technology. The evaluation covers a four year period and is based on a survey of 47 protégé-participants, who are both faculty members and clients of the program, using an anonymous online questionnaire. The research questions yielded evidence that focused on two broad themes, one of which was faculty participation, satisfaction, and university impact of the program. The second theme addressed the programmatic modifications required by a changing faculty client base. Analysis showed that thirty percent of the university's faculty have participated in the program and were teaching 44% of the online courses offered by the university. This suggests that the DEMP was making a mainstream impact on faculty views and abilities related to the online delivery of material. Participants were satisfied with the DEMP and its effectiveness, which was related to the collaborative nature of the program. It was also found that faculty participating in later cohort groups of the DEMP had different needs, which necessitated building more structure and accountability into the program. Policy implications for program administrators are discussed to help universities develop a competitive advantage in the growing market for online education.

Introduction

The purpose of this paper is to broadly evaluate the four-year performance record of the Distance Education Mentoring Program (DEMP), a university-wide development initiative that addressed a gap between faculty instructional needs and technology services. The program was created to assist faculty in developing high quality online courses, in direct response to the observed growth in online education.

An evaluation of the DEMP is appropriate because it enables the program managers to (1) find out what is and is not working, (2) improve its staff's work with protégé-participants by identifying weaknesses and strengths, and (3) add to the knowledge base in the field of faculty development and human resources about what does and does not work in a unique program with a select type of participants. Evaluating the DEMP is also consistent with the assessment literature and the call by accrediting agencies to close the loop on learning initiatives to ensure that programs are achieving their overall objectives (Weldy, Spake, & Sneath, 2008; Soundarajan, 2004).

While this paper is framed around the literature on faculty development, some description of the nature of program evaluation is warranted. In this context, *program evaluation* is defined as "a systematic method for

collecting, analyzing, and using information to answer basic questions about a program" (Goldstein, 2010). In its most general sense, it is a process carried out to determine worth. Our definition focuses on the process to determine whether a program is effective: Are participants deriving the desired benefits? Are participants satisfied with the services provided? Do staff members have the best skills to deliver the required services? Addressing these types of questions constitutes an assessment of "how the program is being implemented" (Rossi, Lipsey, & Freeman, 2004).

The analysis involved in assessing how a program is implemented looks beyond what the program is theoretically designed to accomplish and evaluates instead, how the program actually operates. It assesses whether the program's critical success factors are being implemented. One particular model of program evaluation used as a basis for this study, Scriven's goal –free evaluation model, "allows the evaluator to assess program effects on the clients of the program. The evaluator must then undertake an investigation to determine the causal links that connect program activities to the identified effects" (Gredler, 1996, p. 57). Scriven's model is appropriate because it "sensitizes evaluators to be attentive to a wide range of program effects" (Stecher, 1990, as cited in Gredler, 1996, p. 55). This is important because administrators and policy-makers must go beyond discovering and installing what they decide is the best program they can devise for a particular problem. They must, and recently have, undertaken a process to determine how these programs actually behave – "to measure the outcomes under operating conditions and find out whether the program is accomplishing what was intended and, if not, be in a position to discontinue or improve it" (Quade, 1982, p. 262).

This paper describes the evaluation of the DEMP as an ongoing process of assessment designed to provide information about its past and current operations and effectiveness in order to assist in making decisions about the future. The broad questions about the effectiveness of the DEMP to be addressed include:

1.   Were the protégé-participants satisfied and did they view the program as effective?
2.   What elements of the program were responsible for the protégé-participants' ratings of the program's effectiveness?
3.   How has enrollment varied as the program matured over its first four years?
4.   How has the DEMP evolved during its first four years?
5.   After the program's first four years, what impact has it had on the university in relation to the "saturation" of faculty participants and the number of online courses?

This paper is divided into five sections. The first describes the broader literature on faculty development as it relates to the creation and delivery of online courses. The second describes the four stages of the DEMP. The third discusses the method used to collect the program evaluation data. The fourth presents a summary of the results of analyses designed to answer the five research questions. The last section presents the limitations to the study, conclusions, and preliminary implications for policy.

Faculty Development and Online Education

In their most recent survey of U.S.-based universities, Allen and Seaman (2010b) found that online education continues to grow. They assert unequivocally that "Online enrollments have continued to grow at rates far in excess of the total higher education student population, with the most recent data demonstrating continued substantial growth" (p. 2). Further, chief academic officers at higher education institutions are increasingly likely to indicate that online education is a critical component in their long-term strategy (Allen & Seaman, 2010b). These data and projections of growth suggest that more faculty will need to teach online to meet the growing demand for online courses and programs.

Research and experience have shown, however, that developing and teaching an online course is a different experience from more traditional modes of instruction. Knowing how to use the institution's course management system isn't enough, and faculty developing and teaching online courses may find themselves facing a variety of new challenges. Many authors argue that the online environment promotes a more learner-centered instructional approach, requiring instructors to share control of the learning process with students and take on a more facilitative role (e.g., Jolliffe, Ritter, & Stevens, 2001; Palloff & Praff, 1999, 2001; Shearer, 2003). Research also suggests that faculty may struggle with learning the necessary technology skills (e.g., Giannoni & Tesone, 2003; Institute for Higher Education Policy, 2000; National Education Association, 2000), adapting their pedagogic strategies for the online environment (e.g., Ooman-Early & Murphy, 2009; Palloff & Pratt, 2001; White, 2000; Wolf, 2006; Yang & Cornelious, 2005), conceptualizing their course for the new environment (e.g, Kang, 2001), and finding the increased time required to develop quality online courses (e.g., Bonk, 2001; National Education Association, 2000).

Institutions recognize the unique challenges faculty encounter when teaching in an online environment and are seeking models to address these challenges through training and development. According to Allen and Seaman (2010a), the vast majority of institutions (81%) provide some type of formal or informal training for faculty teaching online. This training may take one or more formats including informal mentoring, formal mentoring, an internally run training course, and/or an externally run training course. Wolf (2006) emphasizes the need for a structured approach and argues that "Faculty who will be teaching online are successful when they participate in formal training" (p. 55). Collaborative approaches, including those with a mentoring focus, offer many benefits and are being more widely implemented (e.g., Hixon, 2009; Knowles & Kalata, 2007; Oblinger & Hawkins, 2006; Puzziferro & Shelton, 2008; Xu & Morris, 2007). The DEMP, which is the focus for this program evaluation paper, is one such program. The cohort-based mentoring program described below is designed to support faculty to overcome the challenges encountered when delivering courses in the online environment.

Stages of the Distance Education Mentoring Program

The DEMP is designed to educate and certify faculty members in the principles of instructional design so as to enhance the quality of their online courses. Specifically, the purposes of the DEMP are (1) to ensure the academic integrity of distance education courses and (2) to align the conditions for learning with the technology used to deliver courses. The program uses a rubric developed by Quality Matters (QM), which is a faculty centered, peer review-based process designed to certify the quality of online courses and their components (MarylandOnline, 2006). Faculty members who have completed the QM certification process and have online teaching experience serve as mentors. Each protégé is paired with a mentor from outside his/her discipline to ensure a focus on instructional design as presented in the QM rubric and avoid involvement with course content. A timeline showing a protégé's progression through the DEMP is provided in Figure 1.
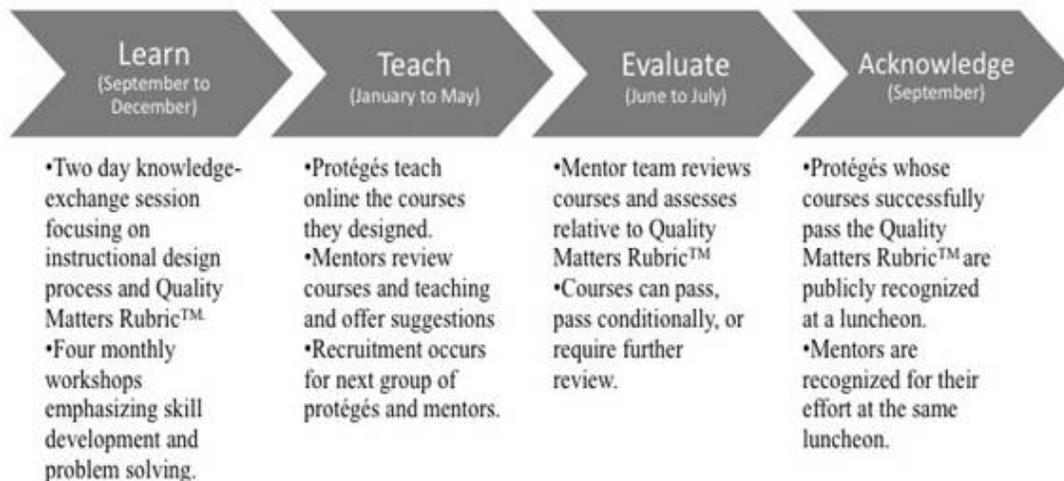

Learn (September to December)	Teach (January to May)	Evaluate (June to July)	Acknowledge (September)
•Two day knowledge-exchange session focusing on instructional design process and Quality Matters Rubric™. •Four monthly workshops emphasizing skill development and problem solving.	•Protégés teach online the courses they designed. •Mentors review courses and teaching and offer suggestions •Recruitment occurs for next group of protégés and mentors.	•Mentor team reviews courses and assesses relative to Quality Matters Rubric™ •Courses can pass, pass conditionally, or require further review.	•Protégés whose courses successfully pass the Quality Matters Rubric™ are publicly recognized at a luncheon. •Mentors are recognized for their effort at the same luncheon.

Figure 1. *Four-stage model of the Distance Education Mentoring Program*

The first stage of the DEMP, Learning, takes place during one semester. During the learning stage, mentors and protégés receive a quarter-time release from their other responsibilities or a stipend as compensation to work together as they design and develop their online courses. The focus of their interactions is on the instructional design process and the Quality Matters criteria. In addition to an intensive knowledge exchange session and several workshops, participants are enrolled in an online course entitled "Online Teaching Institute." In that course created in the university's course management system, participants engage in online discussions and have access to resources related to the instructional design process.

After the courses have been developed, they are self-assessed by the protégés and evaluated by the mentors. Based on the feedback from the mentors, protégés can revise their courses before teaching them the following semester – in the Teaching stage. Once the protégés have taught their courses, all course materials (including student and instructor interactions) are again evaluated by the mentors according to the Quality Matters rubric during the Evaluation stage. Based on their attainment of the criteria, protégés' courses are scored as either "pass," "conditional pass", or "fail." Protégés whose courses do not receive a pass are given an opportunity to improve their course based on the mentors' feedback. Once protégés have taught their course and receive a "pass" rating based on the mentors' evaluation, they are publically recognized at a luncheon and presented with a certificate of completion (the Acknowledge stage). Additional information about the structure of the Distance

Education Mentoring Program has been reported by Barczyk, Buckenmeyer, and Feldman (2010).

Research Approach and Methodology

A key component in evaluating the program's effectiveness is examining the perceptions of the faculty protégés. The four cohorts of faculty who participated in the DEMP between 2006-2010 were invited to complete a survey related to their experience in the program. A total of 92 faculty participants were contacted with a request to complete the electronic survey.

Survey Instrument

Three authors of this article used their insights as mentors and a protégé involved in the first iteration of the DEMP (as summarized in Barczyk, Buckenmeyer, and Feldman, 2010) to develop the survey questionnaire. Research suggests that skilled faculty members and structured faculty development programs are key ingredients of quality distance courses (North Central Association of Colleges and Schools, Higher Learning Commission, 2007). Faculty who teach online must be provided with both training and continuous support (Willis, 1994). The survey questions created reflect these criteria. Specifically, the questionnaire asked about the development of skills to teach online, the focus on instructional design for online instruction, qualities of the mentoring relationship, working as a team, and general beliefs about online instruction.

The questionnaire contained 72 closed-ended items, 58 of which related to the characteristics and outcomes of mentoring as well as to the quality management aspects of the DEMP (the remaining 14 questions were demographic items). A majority of the items required the protégés to rate their attitudes and perceptions using a four-point Likert scale where 1 corresponded to a rating of strongly disagree and 4 corresponded to a rating of strongly agree. Reliability of the survey instrument was calculated using Cronbach's alpha ($\alpha = .971$) revealing strong internal consistency.

Procedure

The survey questionnaire was administered electronically through the university's Blackboard site. Participants in the first three cohorts were contacted after the completion of the third year of the program (April 2009). Participants of the fourth cohort were contacted at the conclusion of the fourth year of the program (April 2010). In each case, faculty participants were sent an email message that explained the study and invited them to participate in the voluntary confidential survey. The faculty were instructed to access the questionnaire by clicking on the appropriate site in their Blackboard menu. Faculty participants who had not completed the survey were sent follow-up email communications reminding them of their invitation to participate.

Results and Discussion

Demographics

Forty-seven individuals (representing a response rate of 51.1%) completed the online questionnaire. All participants are or were professors or instructors at a university in a Midwestern state, and represent a variety of disciplines. The respondents ranged in age from early 30s to over 66 years old, and had an average of 16.14 years of experience in higher education. The respondents included 26 females and 18 males (3 non-respondents). The majority of respondents (67.4%) had taught an online course prior to participating in the program, though far fewer respondents (34.1%) had taken an online course. Additional demographic information will be reported below within the context of specific research questions.

Research Question #1: *Were the protégé-participants satisfied and did they view the program as effective?*

The survey instrument included several questions related to participant satisfaction and perceptions of the program's effectiveness. Table 1 includes the relevant questions and participants' responses.

Table 1. *Protégés' perceptions of satisfaction and program effectiveness*

	M	N	SD	% agreed
I am satisfied with my overall experience in the DEMP	3.26	43	0.73	88.4%
Instructor certification achieved through the DEMP is a way to pursue	3.40	45	0.81	88.9%

continuous improvement				
My online teaching has improved as a result of participation in the DEMP	3.45	42	0.67	95.2%
My on-campus or traditional classroom teaching has improved as a result of participation in the DEMP	2.95	43	0.75	79.1%
I have been able to apply the skills and knowledge acquired from the DEMP to other online courses	3.34	44	0.78	90.9%
I have been able to apply the skills and knowledge from the DEMP to other courses	3.52	44	0.70	93.2%
I have made changes to my other courses as a result of participating in the DEMP	3.34	44	0.71	90.9%

The participants' responses indicate that in general, they are satisfied with the program and are able to use what they learn in the program to improve their teaching more broadly.

Research Question #2: *What elements of the program were responsible for the protégé-participants' ratings of the program's effectiveness?*

To better understand the mechanisms behind these ratings, numerous faculty and program characteristics were examined in relation to participants' ratings of program effectiveness. A composite rating indicating program effectiveness was calculated based on the above seven questions in Table 1 related to participants' perceptions of satisfaction with the program, improvement of teaching, and transfer of learning. Reliability was calculated using Cronbach's alpha, which indicated that the questions form a reliable factor ($\alpha = .90$, N = 7).

Specific characteristics of the DEMP were examined in relation to program effectiveness. Each of these factors was based on multiple questions from the questionnaire, which were used to create a composite factor score (See Table 2). The reliability of each factor was calculated using Cronbach's alpha. Three program characteristics were examined: focus on instructional design for online learning ($\alpha = .91$, N = 8), qualities of the mentoring relationship ($\alpha = .94$, N = 15), and the collaborative qualities of the program ($\alpha = .92$, N = 8).

Table 2. *Participants' Perceptions of Program Characteristics*

Program Characteristics	M	N	SD
Instructional Design			
I demonstrated a competency to develop learning objectives	3.33	46	0.73
I demonstrated a competency to align objectives, learning activities, and assessment	3.37	46	0.77
My mentor facilitated my learning about instructional design	3.15	46	0.85
My mentor facilitated my ability to apply instructional design principles	3.00	46	0.82
The focus of my mentor was on the instructional design rather than the content of my course	3.26	46	0.72
My mentor knew how to apply the principles of learning	3.25	44	0.81
The Distance Education Mentoring Program provided me with a working knowledge of the infrastructure supporting online learning	3.12	45	0.75
The Distance Education Mentoring Program exposed me to models of teaching excellence particularly appropriate for distance education	3.36	45	0.68
Cronbach's a = .90			
Mentoring Relationship			
My mentor facilitated my growth as an online instructor	3.24	46	0.82
My mentor worked to serve my needs	3.33	46	0.73
My mentor responded to my questions in a timely manner	3.39	46	0.68
My mentor shared information from his/her course to help me visualize processes and outcomes	3.26	46	0.77
My mentor devoted time to establishing good rapport with me	3.28	46	0.81
My mentor devoted time to clarifying expectations	3.21	46	0.81
I would have benefited from more intensive interaction with my mentor earlier in the program	2.64	45	0.90
My mentor provided me with adequate feedback once I submitted my course for	3.11	43	0.96

evaluation			
I developed a friendship with my mentor	3.01	46	0.86
My mentor provided me with career support	2.22	41	0.99
My mentor provided me with psychological support	2.64	44	0.97
My mentor knew how to engender trust	3.02	43	0.80
My mentor knew how to share information openly	3.63	44	0.65
My mentor exhibited strong interpersonal skills within a professional framework	3.33	45	0.86
My mentor had an open door policy encouraging us to freely offer suggestions	3.39	44	0.72
Cronbach's a = .94			
Collaborative Atmosphere			
I feel connected to my mentor or to other mentors in the DEMP	2.89	45	0.91
My mentor provided me with access to new information	3.09	44	0.77
The DEMP provided me with an introduction to knowledgeable individuals across campus that could be helpful in the future	3.33	45	0.74
My opinions and suggestions for improvement in distance education were encouraged and welcomed	3.22	45	0.82
My opinions and suggestions offered during the DEMP were thoughtfully considered	3.13	46	0.81
The DEMP encouraged working *as a team* with our mentors to solve problems	2.98	45	0.75
Mentors used my feedback to improve the DEMP	2.87	40	0.69
When problems occurred, mentors in the DEMP were more interested in better understanding processes (determining the causes of those problems so as to avoid recurrences) rather than simply developing quick-fix solutions	3.05	45	0.75
Cronbach's a = .92			

A regression analysis indicated that these three factors explain 59% of the variance in respondents' perceptions of the program's effectiveness ($R2 = .59$, $F(3,43) = 19.42$, $p < .001$). More specifically, respondents' perceptions of the collaborative atmosphere of the program significantly predicted their views of program effectiveness ($\beta = .80$, $p = .001$). The more participants felt the program was collaborative (ideas were freely exchanged, feedback was welcomed, participants worked as a team and developed relationships), the more likely they were to feel that the program was effective.

Research Question #3: *How has enrollment varied as the program matured over its first four years?*

Although year 3 had a somewhat smaller group of participants, enrollment in the program was fairly consistent over the first four years of the program. The numbers of protégés who participated in the DEMP and completed the survey by year are shown in Table 3.

Table 3. *Response Rates by Cohort*

	N	*n*	*% responded*
Year 1 (2006 cohort)	30	8	26.7%
Year 2 (2007 cohort)	27	14	51.9%
Year 3 (2008 cohort)	16	9	56.2%
Year 4 (2009 cohort)	24	14	58.3%
Total	97*	45**	51.1%

* Some program participants were not invited to participate in this survey due to attrition (they left the university) or because of close involvement in the research project.
** Two respondents from years 1-3 did not indicate their year of participation in the program.

DEMP directors and mentors observed changes in the faculty participants over time and began making program modifications to accommodate those changes (see Research Question #4 below). To better understand this dynamic, survey responses were examined based on year of participation in the program. Specifically, the responses of participants from years 1-3 were combined to form the Year 1-3 Cohort and compared with the responses of the most recent group, the Year 4 Cohort. Independent sample t-tests were used to compare the responses of the two groups on questions that generated continuous data. Chi square analyses were used to compare responses to questions that generated categorical data.

Demographic Differences. Several differences were found based on the educational experience of the faculty. When respondents from the Year 4 Cohort were compared to Year 1-3 Cohort, there was a significant difference in the number of years following receipt of their terminal degrees $t(38) = 5.75$, $p = .011$. Faculty respondents in the Year 1-3 Cohort earned their degrees longer ago ($M = 16.96$, $SD = 10.36$) than participants in the Year 4 Cohort ($M = 8.42$, $SD = 5.92$). Similarly, those in the year 4 cohort had been teaching at the university level a lesser number of years ($M = 6.92$, $SD = 7.94$) than respondents in the Year 1-3 Cohort ($M = 14.82$, $SD = 8.79$), $t(39) = 2.76$, $p = .009$. Consistent with these findings, more respondents had higher rank in the Year 1-3 Cohort than in the Year 4 Cohort, $X2$ (4, N = 43) = 9.41, $p = .052$. The distribution of faculty respondents by rank is summarized in Table 4.

Table 4. *Rank of Respondents*

Rank	Year 1-3 Cohort	Year 4 Cohort
Assistant Professor	7	9
Associate Professor	11	5
Full Professor	6	0
Assistant Clinical Professor	0	0
Associate Clinical Professor	1	0
Instructor	4	0

Respondents in the Year 4 Cohort were also less likely to identify themselves as early adopters of technology. Respondents from this group were more likely to disagree with the statement "I am an early adopter of new technology" ($M = 2.31$, $SD = .95$) than respondents from the Year 1-3 Cohort ($M = 3.24$, $SD = .87$), $t(40) = 3.12$, $p = .003$.

Other key demographic variables that did not yield significant differences included age, previous online teaching experience, gender, and ethnicity.

Differences in Experiences and Perceptions. There were few significant differences between the experiences and perceptions of respondents in the Year 4 and Year 1-3 cohorts. One area where they differed, however, was in relation to the value they felt the online course added to their experience. Respondents from the Year 4 Cohort indicated that they benefitted more from the materials posted in the "Distance Learning Institute" online course ($M = 3.69$, $SD = .48$) than respondents from the Year 1-3 Cohort ($M = 3.00$, $SD = .83$), $t(41) = 2.80$, $p = .008$. Year 4 respondents also more strongly believed that the DEMP exposed them to models of teaching excellence particularly appropriate for distance education ($M = 3.69$, $SD = .48$) than respondents from the Year 1-3 Cohort ($M = 3.23$, $SD = .73$), $t(41) = 2.08$, $p = .044$.

An important area where the cohort groups did not significantly differ from one another was related to participants' satisfaction with their overall experience in the DEMP, $t(40) = 1.50$, $p = .14$. Both groups generally expressed satisfaction with their experiences in the program (years 1-3: $M = 3.13$, $SD = .73$; year 4: $M = 3.50$, $SD = .67$). The other factors discussed in relation to the first research question (participants' perceptions of teaching improvement and their reported ability to apply the knowledge and skills they learned in the program) also did not differ significantly between cohort groups.

Research Question #4: *How has the DEMP evolved during its first four years?*

In the fourth year of the program, some changes were made in an attempt to accommodate the perceived changes in the faculty participants. While the program's basic framework (as described above) remained the same, a greater amount of structure was integrated in year four. The online course in which faculty participants were enrolled was redesigned to include a more defined structure with more targeted resources. Formal assignments were created and participants were required to submit them within the online course by specific deadlines. A formal meeting schedule was created to ensure that faculty participants were in regular contact with their mentors. Faculty members were also required to sign a contract that detailed the expectations for their participation and required them to identify individual goals and deadlines for their course development process.

Another major change to the program was a shift in focus from the development of purely online courses to the development of high-quality hybrid courses. Faculty members participating in year four of the program were

doing so not necessarily because they were being required to teach an online course. Administrators saw the DEMP as a way for faculty members to learn more about emerging technologies and, more importantly, about developing an instructionally sound course. To alleviate some of the fear harbored by faculty participants about developing and teaching an online course, the DEMP allowed (and even encouraged) faculty participants to develop a hybrid course. The hope was that faculty members would be able to focus more on the instructional elements of the course development process without being overwhelmed with and frightened by the prospect of teaching a purely online course.

Research Question #5: *After the program's first four years, what impact has it had on the university in relation to the "saturation" of faculty participants and the number of online courses?*

In the first four years, a total of 97 faculty members participated in the DEMP. Given that there are 313 full-time faculty members at the institution, this represents a sizable portion (30.6%) of the faculty population. Table 5 demonstrates the cumulative effect of the program over time.

Table 5. *Cumulative faculty participation*

Year	# faculty participants	# faculty participants (cumulative)	% of PUC faculty (cumulative)*
1 (2006)	30	30	9.5%
2 (2007)	27	57	18.0%
3 (2008)	16	73	23.0%
4 (2009)	24	97	30.6%

According to 2009-2010 data, there were 317 full-time faculty and instructors at PUC who would be eligible to participate in the DEMP.

Interesting insights can be gleaned by examining the data in Table 5 in relation to Rogers' Diffusion of Innovations Theory (2003). The instructional design and computer technology associated with online and hybrid course delivery can be viewed as innovations which become diffused in a university environment. The way the technology is diffused throughout the organization can be graphically presented as a distribution showing the percentage of faculty considered to be innovators, adopters, and laggards, as shown in Figure 2.

The cumulative percentage of faculty members who have participated in the DEMP (30.6%) suggests that the DEMP is making strides in disseminating online instruction, and technology integration more broadly, into the mainstream faculty population. As shown in Figure 2, the innovators and early adopters of an innovation typically make up 16% of a population. While it would be inaccurate to suggest that all of the innovators and early adopters of technology participated in the DEMP during the first two years (when it reached 18% saturation) or that all of those who participated during the first two years were innovators or early adopters, it is reasonable to suggest that many of the innovators and early adopters likely participated in the program during its first three years of operation. It is also reasonable to suggested that by year four, the DEMP was serving many faculty considered to be in "the majority" with regard to innovation adoption.

Figure 2. *Rogers' Diffusion of Innovations Theory*

Another measure of "saturation" related to the program is the number of online courses offered by faculty members who have participated in the DEMP. Table 6 shows the number of online courses offered by semester

and the number and percent of those online courses taught by faculty who participated in the DEMP. According to the four-stage model of the DEMP shown in Figure 1, faculty members enter the program during the fall semester. They begin to have an impact two semesters following their entry.

Table 6. *Online courses taught by DEMP faculty*

Impact of Cohort	Semester	# online courses offered	# online courses taught by DEMP faculty	% of online courses taught by DEMP faculty
Year 1 (2006)	Spring 2007	146	46	31.5%
	Fall 2007	159	51	32.1%
Year 2 (2007)	Spring 2008	164	71	43.3%
	Fall 2008	165	70	42.4%
Year 3 (2008)	Spring 2009	210	97	46.2%
	Fall 2009	183	79	43.2%
Year 4 (2009)	Spring 2010	206	104	50.5%
	Fall 2010	195	85	43.6%

There is an upward trend in the percentage of online courses taught by faculty who participated in the DEMP. Combining the data from Tables 5 and 6 reveals that 30.6% of the faculty who have participated in the program are now teaching 44% of the online courses offered by the institution.

Conclusions and Implications

This evaluation of the DEMP culminated in results that can be viewed in terms of two broad themes: 1) faculty participation, satisfaction, and impact on the university, and 2) programmatic modifications to address the changing characteristics of the faculty participants.

The first theme concerns the institutional impact of faculty participation in and satisfaction with the DEMP. As a result of four cohorts of faculty participating in the DEMP, over 30% of the university's faculty have participated in the program. When considered in relation to Rogers' Diffusion of Innovation theory (2003), it is probable that the program is making a mainstream impact on faculty views and abilities related to the online delivery of material. The program is not simply reinforcing the views and skills of those already knowledgeable about online instruction. Over the last four years the DEMP has reached out to those who do not consider themselves early adopters of technology or leaders in online instruction. With program participants teaching 44% of the online courses offered, the DEMP is making strides with "the majority," of faculty who are important resources to an institution looking to expand high-quality online offerings.

This program evaluation also revealed evidence to suggest that the mentoring-based online course development program impacted faculty participants beyond the course they were developing. If a program such as the DEMP can impact faculty teaching beliefs and strategies more broadly (as the initial self-report data suggests), then the number of courses and students impacted can grow exponentially. Such impact would obviously benefit an institution and greatly enhance the value of a program such as the DEMP. Additional research is needed to explore the extent to which faculty members apply their learning from the program in other courses they develop and teach.

In trying to understand how to best structure a program to realize the potential institutional benefits emerging from the DEMP, it is important to consider the perceptions of the faculty participants. Participants in the DEMP indicated that they were satisfied with their overall experience. Their satisfaction and indications of the program's effectiveness (as indicated by their perceptions of teaching improvement and ability to apply what they learned) were most closely attributed to the collaborative nature of the DEMP. This suggests that an institution considering the development of a similar faculty development program should:

- Make relevant information easily available to participants.
- Encourage suggestions and feedback from participants.
- Ensure participants feel connected to their mentor and other program participants.
- Encourage participants to work as a team with their mentors and others.
- Help participants find process-based solutions to problems encountered, rather than use quick fixes.

The second theme that emerged from this program evaluation concerns the changing characteristics of faculty

considering online teaching. Given that most of the innovators and early adopters of instructional technologies have likely already chosen to teach online and sought out opportunities to do so, institutions should expect that later groups of faculty interested in online teaching will be different. They may be reluctantly testing the online waters and have different needs from those faculty members who have already been teaching online or have a favorable view of online instruction. Administrators and staff involved with programs to assist faculty with online course development will need to understand how these faculty members are different and consider how they can best accommodate their needs.

Findings from this program evaluation suggest that respondents from the DEMP's Year 4 Cohort differed from those in the Year 1-3 Cohort in some interesting ways. Although they were not necessarily younger, respondents in the Year 4 Cohort were newer to teaching at the university level. They were also less likely to consider themselves to be early adopters of technology, which suggests that they may be less confident of their technological skills and its value in education.

As described in relation to Research Question #4, the program staff did make some modifications to the program in the fourth year to accommodate the changes they observed in the needs of faculty participants. These changes focused on expanding the online course site and incorporating more structure and accountability into the program. The expanded online course site appears to have had some influence on faculty respondents in the year four cohort, as they reported having benefited more from that material than previous program participants (as reported in Research Question #3). They also indicated that the DEMP exposed them to effective models of teaching for the online environment. Because these faculty do not consider themselves to be early adopters of technology, they may want or need additional resources and guidance through a more structured and supportive online course model.

The most recent report from the Sloan Consortium indicates that online education continues to grow and is central to many institutions' long-term strategic goals (Allen & Seaman, 2010b). Such growth will require more faculty members to teach online courses. In tight economic and recessionary times when funds for training and faculty development are sometimes reduced to relieve budgetary pressures, knowing that a program such as the DEMP has bottom-line benefits provides university decision makers with the information necessary to continue funding, and in the process, build quality faculty and online courses. An institution thus earns a distinct competitive advantage given the increasing number of students learning online.

Limitations

Like all research, this study has potential limitations. First, a survey was used and thus, there is a reliance on self-report data. Even though the protégés completed their surveys anonymously and asynchronously, self-report has the potential to create a social-desirability bias because participants often want to respond in ways that make them look as good as possible. Respondents may further occasionally under-report behaviors deemed inappropriate by researchers and over-report behaviors viewed as appropriate. The nature of the survey and its electronic administration likely prevented participants in the current study from knowing the research questions or desired responses. While the possibility for this effect exists, the probability that it would impact the study's findings is relatively low.

Second, this study relied on the use of a single survey instrument, which creates the potential for mono-method bias. Because the study was longitudinal in nature, a survey was the most feasible means of efficiently collecting data from the protégés associated with multiple cohorts.

Third, this research was conducted at a single institution. Thus, the results may not be generalizable to other institutions. It should be noted, however, that this is a long-term evaluation of the results of the DEMP over four years – from its initial offering to its most recent implementation.

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Back to the Online Journal of Distance Learning Administration Contents