What Works in Distance Learning: Early Indicators from an Evaluation of REMOTE, an Online Master's Degree Program for Micronesia and American Samoa

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Abstract: Pacific Resources for Education and Learning (PREL) and the University of Hawai'i at Mānoa (UHM) are implementing a distance learning master's level course in Educational Foundations with a specialty in evaluation intended for residents of the Pacific region. Results from evaluation of the first four REMOTE courses are described in this paper. Results indicated participants were satisfied with several aspects of the program yet provided information on areas that could be improved. The evaluation results argue for a better understanding of how to ensure adequate amounts of learning time, improve the technology typically available for distance learning, and reduce the isolation often experienced by students in distance learning contexts. The evaluation results also point toward some strategies that may strengthen the probability of successful distance learning experiences.

Introduction

Pacific Resources for Education and Learning (PREL) and the University of Hawai'i at Mānoa (UHM) are implementing a distance learning master's level program in Educational Foundations with a specialty in evaluation for residents of the Pacific region. The goal of the program, known as the Regional Education Masters Online Training in Evaluation (REMOTE). is to increase the capacity in the Pacific region to understand and use evaluation results to improve educational services.

REMOTE was funded by the National Science Foundation (NSF) for the 3-year period from October 2006 to September 2009. The funding pays for tuition for 30 graduate credits at UHM for 15 students and for transportation, lodging, and meals for a 2-week summer session held as the inaugural event of the course. Students in the REMOTE program complete 30 graduate-level credits and write a "Plan B" thesis in order to graduate with a master's degree in education from the UHM. The program began with a 2-week face-to-face introduction in Honolulu in June 2007. The remainder of the

program will use a distance learning approach, combining synchronous and asynchronous modes of instruction.

In this paper, we summarize results from evaluation of the program in its first two semesters, from its inception in Summer 2007 through its second term ending in December 2007. The program, enrollment statistics, results of course satisfaction measures for the summer and fall terms of 2007, and information on student progress from individual and group interviews are described. Since this project is currently in progress, this paper attempts only to provide a snapshot of what exists now; at the end of this 3-year project, we intend to summarize evaluation results and reach conclusions on what works and what needs to be changed in a program such as this one.

Participants and Setting

Ten jurisdictions in the Pacific, closely affiliated with the United States and served by PREL (i.e., American Samoa, the Commonwealth of the Northern Marianas Islands, Guam, the Federated States of Micronesia [Chuuk, Kosrae, Pohnpei, and Yap], Hawai‘i, Palau, and the Republic of the Marshall Islands), were invited to nominate two candidates each for enrollment in REMOTE. Fifteen students, representing nine jurisdictions that submitted applicants, were admitted.

Four additional students were accepted as well. These four students are supported by their government (American Samoa), not by the grant. The program began in Summer 2007 with 19 students as part of the original cohort. The table in Appendix B provides a breakdown of the individual jurisdictions and numbers of students from each island.

Description of REMOTE Program

REMOTE students will take a total of 11 courses during the two year program. The courses and their sequence are listed in Appendix A. The first two courses, delivered in Summer 2007, employed a hybrid format that combined face-to-face delivery and online delivery. The courses were partially taught during a summer institute that took place in June and July 2007. Students from all the jurisdictions were convened in Hawaii for an intensive orientation to the program. During this two-week period, they received intensive immersion into the first two courses in a traditional classroom setting. After the summer institute, students returned to their home islands and have continued the courses online, using web-based courseware (WebCT). All remaining REMOTE courses are being delivered electronically to participants. After the summer session, no face-to-face instructional formats are planned, due to the limited funding in the grant period.

Methods

Evaluation Measures and Tools

This report reviews the implementation of four courses during the summer and fall semesters of 2007. Satisfaction questionnaires, e-mails, on-line group conferences, and phone conversations were used to obtain information from participants about their

satisfaction with the courses and program. Measures of course satisfaction were administered in the summer and fall.

In the summer, evaluation measures included PREL's course satisfaction questionnaire, the university's course satisfaction questionnaire, a questionnaire completed for the summer institute technology training, and probes taken during the summer institute to gauge student progress. In the fall, evaluation measures included a course satisfaction questionnaire, online meetings, and private phone conversations.

Results

Summer Semester Results
For the summer session given in Honolulu, results are presented for the PREL and UH satisfaction questionnaires (fixed response and open-ended items are presented separately), the technology survey, and the indicator of personal progress.
PREL questionnaire, fixed-choice responses.

In Table 1, item means, scale means, and standard deviations are given for the PREL satisfaction questionnaire. Results are aggregated across both summer courses. Also given are the aggregated percentages for the two highest response choices (4 and 5). Items are presented in order of magnitude of their means.

Table 1. Aggregated Results for Both 2007 Summer Institute Courses, PREL Course Satisfaction

Items (sorted by mean)	Mean	Std Dev	% 4 or 5
1. Objectives were stated at the beginning.	4.7	0.6	94
2. Grading criteria were shared in the first class.	4.7	0.8	97
4. Instructor was prepared each day.	4.7	0.5	97
5. Assignments were clear.	4.7	0.6	94
10. The information will be useful in my job.	4.7	0.8	94
3. Class materials were useful.	4.6	0.7	91
7. Examples were culturally appropriate.	4.6	0.9	87
9. The classroom was good.	4.2	1.0	77
8. I could understand the material.	4.1	0.9	86
6. I could complete assignments.	3.8	1.0	66
Total scale	*4.49*	*.33*	*89*

Note. The Alpha coefficient for the 10-item scale was .93. *N*=38.

University questionnaire, fixed choice responses.

In Table 2, item means, scale means, and standard deviations are given for the UHM satisfaction questionnaire. Results are collapsed across both summer courses. Also given are the aggregated percentages for the two highest response choices (4 and 5). Items are presented in order of magnitude of their means.

Of the 494 possible responses to this questionnaire ((19 respondents + 19 respondents)*13 items=494), 24 responses, or 5% of the data, were inappropriately marked as a 6. Because the responses to this questionnaire were generally high, it is possible respondents intended to signify an even higher rating than allowed by a response of 5. Or, because the response option 6 appeared as an option on the bubble form next to the response option 5, respondents may simply have erred in marking the closely grouped 6 response when they meant to mark 5. To avoid possible bias from these miscodes, responses of 6 were deleted.

Table 2. Aggregated Results for Both 2007 Summer Institute Courses, UH Course Satisfaction

Items (sorted by mean)	Mean	Std Dev	% 4 or 5
1. The instructor understands course content.	4.9	0.51	0.97
12. The course challenged me intellectually.	4.8	0.82	0.94
6. I felt free to ask questions.	4.8	0.64	0.95
3. The instructor communicated effectively.	4.7	0.67	0.94
7. The instructor encouraged class discussion.	4.7	0.79	0.92
9 The instructor was always well prepared.	4.7	0.79	0.92
10. Assignments were relevant to class presentations.	4.7	0.75	0.94
11. Instructional materials were relevant to course objectives.	4.7	0.67	0.94
13. Grading and grade criteria were fair.	4.7	0.68	0.94
8 The instructor was available for consultation.	4.7	0.71	0.92
2. The goals of the course were met.	4.6	0.77	0.89
5. My understanding of the subject was improved.	4.6	0.77	0.89
4. I gained a good understanding of the topic.	4.3	0.94	0.86
Total scale	*4.67*	*.15*	*92*

Note. The Alpha coefficient for the 13-item scale was .96. *N*=38.

PREL questionnaire, *open-ended responses*. There were four open-ended questions on the PREL course satisfaction questionnaire: (a) Did the course meet expectations, (b) what was the best thing about the course, (c) what would respondents change about the course, and (d) additional comments.

Virtually everyone said the courses exceeded their expectations. They also said that there was not enough time to learn the material. Participants expressed thanks to and admiration for the instructors. The high value participants expressed for their instructors was corroborated by the numerical responses they gave to the fixed-choice part of the questionnaire. Participants said they valued the course content and thought they had learned much.

Because participants said they felt pressured and rushed during the 2-week summer period, it's not surprising they suggested the course content be trimmed or the time allocated for them expanded. In the additional comments field, participants again complemented and thanked the instructors for the learning provided.

University questionnaire, *open-ended responses*. The open-ended responses from the university questionnaire were consistent with those from the PREL questionnaire. Participants thought the instructors were excellent and the courses valuable. And, they would have liked more time to learn the material.

Technology module. The results for participants' evaluation of the technology module that oriented them to WebCT (the distance learning technology they would use for REMOTE when they returned home) are given in the following table, sorted by magnitude of item means.

Table 3. Results for Technology Module, PREL Course Satisfaction Questionnaire

Items (sorted by mean)	Mean	Std Dev	% 4 or 5
10. The information will be useful in my job.	4.5	.96	95
3. Class materials were useful.	4.4	1.01	90
9. The classroom was good.	4.4	1.01	90
1. Objectives were stated at the beginning.	4.3	1.02	89
4. Instructor was prepared each day.	4.3	.99	90
5. Assignments were clear.	4.3	1.07	83
7. Examples were culturally appropriate.	4.2	.96	90
2. Grading criteria were shared in the first class.	3.9	1.09	69
8. I could understand the material.	3.9	1.06	72
6. I could complete assignments.	3.7	1.19	61
Total scale	*4.17*	*1.04*	*83*

Note. The Alpha coefficient for the 10-item scale was .90. *N*=19

Although the numeric responses were reasonably high, the open-ended responses indicated participants probably would have liked more time for the technology

orientation. Although an orientation to video conferencing was not provided during this module, it was provided later.

Indicator of personal progress. Descriptive statistics for the self-assessment ratings of personal progress during the summer institute are given in the following table.

Table 4. Descriptive Statistics for Progress Self-Ratings

	Day 3	Day 5	Day 7	Total
Mean	2.8	2.9	2.8	2.8
Standard deviation	.51	.33	.65	.50
N	19	19	18	56
Median	3	3	3	3
Frequency Percent:				
1 Way behind	0	0	6	2
2 Behind	21	11	17	16
3 On track	74	89	72	79
4 Ahead	5	0	6	4
5 Way ahead	0	0	0	0
Total	100	100	100	100

Note. Two ratings of 2.5 were included in the calculations of means and were counted as *3s* for the calculations of percentages.
N=19

Averaged across all three days, most of the participants (79%) said they were making adequate progress.

Fall 2007 Semester Results

Evaluation results for the fall semester are presented for the course satisfaction questionnaire, the online meetings, and the individual phone conversations used to obtain evaluative information from participants.

PREL's course satisfaction measure. As the courses finished, participants were asked to complete a course satisfaction questionnaire for each fall course. Not all students had completed a questionnaire when results were tabulated on December 31, 2007. The results for 20 participants, across both courses, are presented in the following table.

Table 5. Aggregated Results for Both 2007 Fall Courses, PREL Course Satisfaction Measure

Items (sorted by mean)	Mean	Std Dev	% 4 or 5
8. The instructor was accessable.	4.9	0.36	100%
3. Feedback was timely.	4.7	0.57	95%
4. The assignments were relevant.	4.7	0.46	100%
6. We were encouraged to apply what we learned to the real world.	4.6	0.74	85%
1. The instructor's teaching was effective.	4.5	0.67	90%
5. We were encouraged to work with other students.	4.5	0.67	90%
2. The instructor explained expectations and objectives.	4.3	1.00	80%
9. The course used a variety of learning styles.	4.3	0.78	90%
12. I was able to learn with the distance-learning format.	4.3	0.83	85%
14. I had the technology skills I needed.	4.3	0.90	80%
10. The learning styles met my needs.	4.1	1.02	80%
11. There were opportunities to work alone and with others.	4.1	1.07	70%
15. I had adequate opportunity to interact with students and teachers.	3.9	0.96	65%
17. Elluminate and teleconferencing helped me connect with others.	3.9	0.83	70%
13. I learned as much in this course as I have is traditional courses.	3.7	1.11	60%
16. I felt isolated without face-to-face contact.	3.6	1.43	53%
Total scale	*4.3*	*.93*	*81%*

Note. The Alpha coefficient for the 17-item scale was .80.
N=20.

Like the satisfaction results for the summer program, these for the fall indicate participants had high regard for the instructors and courses. Because only about half of the population of course participants responded, and because these respondents volunteered to do so, it is not clear these results are representative of the full group. We are comfortable saying, the partial-group satisfaction results for the fall are consistent with the full-group satisfaction results for the summer. Although we doubt that the present results would be different from those that would be obtained if all fall participants had responded, the amount of missing data for the fall and the voluntary nature of its selection makes such a difference possible. Responses to the open-ended items for the fall course satisfaction questionnaire were positive.

Online and phone meetings. During the online and phone meetings, participants said the online discussion was helpful. They asked for e-mailed meeting notes. Participants also valued the Elluminate Live! sessions and said they would like to continue having such opportunities to connect with instructors and other students. (Elluminate Live! is the web-conferencing software we used to conduct synchronous meetings of instructors and students.)

Students noted that their successes included learning to keep up with course assignments, making time for coursework after hours, and just plain "hanging in there." Students were thankful for the flexibility that instructors had provided for the due dates of assignments. They noted that instructors responded consistently and quickly.

One student noted that conducting searches in online databases for a literature review had been difficult. Not enough instruction had been provided about the knowledge and skills required to conduct searches for literature. In response to this concern, one instructor plans to include literature reviews in a course to be offered in the spring semester. Similarly, an upcoming Elluminate Live! session will be dedicated to the procedures of literature reviews using online databases.

Individual phone conversations. Students most often said that the greatest challenge was juggling the demands of work, family, and a university graduate-level program. Students talked about having greater responsibilities at work than expected when they agreed to participate in REMOTE. Several students said there was too much work packed into a short time. Students took responsibility for finding time for the course. Some of those who had trouble finding time for the course nevertheless enjoyed what they were learning. Some students expressed appreciation for having the opportunity to be part of REMOTE. Almost all students volunteered appreciation for the flexibility and understanding of the instructors.

Students noted technology challenges. Many said the fluctuating bandwidth where they live caused Web pages to load slowly. Students also said that WebCT had too many links. To help mitigate this difficulty, one course instructor used a limited number of links. (Future REMOTE instructors were apprised of this system so that a consistent approach for students might be maintained.)

Discussion

Across two semesters, four courses, and many sources of information, REMOTE participants consistently expressed satisfaction with the instruction they received and the courses they took. They noted the high level of academic expectation. The summer institute (the two weeks in Honolulu) was too intense for many. Participants asked that the duration of the summer institute be increased or the workload reduced. By the end of the second semester (fall 2007), this discomfort regarding intensity of course work had not abated.

The challenge posed by the quick pace of the course work was exacerbated for some by competition for their time from family, community, and work. Some of this competition for time was normal for those who work while they attend school. Some of the competition for time involved serious and relatively rare life events, such as deaths and personal problems of various sorts. Also, the technology available to students did not always meet the expectations of quick and expedient electronic transmission of material. Slow internet connections were often cited as a point of frustration when doing web-based research or accessing courseware.

The evaluation results also point toward some strategies that may strengthen the probability of successful distance learning experiences. Before the distance-learning course is underway, it should help to review the expectations of the course, the challenges that may emerge, and possible responses students might take. Such strategies of role-playing and anticipation have been used to manage stress in similar contexts. These results indicated that participants could use advisors to help them navigate bureaucracy, manage stress, and work through the evaluation study they produced. Similarly, students might profit by having assigned buddies so the two can manage instructional demands.

A final strategy for improving the chances of success for distance learning programs is the opportunity for participants to interact with other class members and the instructors in real time. That means making available synchronous connections among course participants. We have tried to implement synchronous meetings via Elluminate Live! to address this request by students. In course evaluations, students have reported that they like these synchronous sessions and consistently request additional opportunities for Elluminate Live! meetings.

Finally, we uncovered a somewhat new challenge. The technology available to the participants may not have satisfied this group's desire for closer and more continuous contact with their colleagues. Beginning with the summer session, when they met in Honolulu face-to-face, REMOTE participants bonded and enjoyed functioning as a group. With the obvious challenges to that interest forced by their geographical separation, we wonder whether the realities of distance learning might be missing a potentially powerful resource for this group. Because they are well-placed professionals in the region, it seems there is the possibility that the course could catalyze these members as a positive force for educational change in the region, but that the lack of in-person interactions might prevent that catalytic role.

Conclusion

Based on our familiarity with distance learning and its literature, the kinds of problems experienced by REMOTE participants after two semesters of a four-semester program were not surprising. The four greatest challenges cited were (a) fast pace of master's level work, (b) competing time demands from home, work, and community, (c) inadequate technology for distance learning, and (d) and a sense of isolation.

While some of these challenges are inherent to distance learning, REMOTE's program managers are working to address those challenges that can be mitigated. For instance, instructors have taken into consideration the issues of the fast pace of coursework and made accommodations for students as needed. For instance, instructors regularly give students extra time to finish assignments. Instructors also make themselves available long past a course completion to support students who have gotten behind. In addition, the instructors and project director conduct regular Elluminate *Live!* sessions and invite key people to be guest speakers at these sessions, often in response to student requests. For example, students mentioned their lack of familiarity with using educational databases for the research they needed to conduct for their literature reviews. In a consequent Elluminate *Live*! session, a librarian who was familiar with the Pacific islands and the technology issues faced by students there, conducted a presentation on using EBSCO and Eric resources for master's level research. She provided solutions and shortcuts to address the realities of doing internet-based research on lower bandwidth connections.

This midterm evaluation has provided us with information that helps the 3-year program in a formative manner. It will also serve to inform future distance learning initiatives we conduct in the Pacific, providing valuable information on how to be proactively responsive to the needs of participants in distance learning courses in the Pacific islands. By the end of this project, we hope to have gained insights that add to the knowledge base on best practices in distance learning in rural and geographically-dispersed locations, such as the Pacific islands.

Appendix A

Courses Comprising REMOTE

Semester	Course
Summer 2007	1. Introduction to Evaluation
	2. Educational Statistics
Fall 2007	3. Introduction to Educational Research
	4. Social and Cultural Contexts of Education
Spring 2008	5. Survey Research Design and Analysis
	6. Foundations of Evaluation Theory
Summer 2008	7. Directed Research (2 credits)
Fall 2008	8. Seminar in Educational Psychology: Educational Evaluation
	9. Seminar in Educational Foundations
Spring 2009	10. International Development Education
	11. Directed Research (1 credit)
	• Graduation

Appendix B
REMOTE Enrollment Fall 2007

Jurisdiction	**Summer 2007**	**Fall 2007**
1. American Samoa	7	7
2. Chuuk	2	2
3. CNMI	2	2
4. Guam	1	1
5. Hawaii	1	1
6. Kosrae	2	1
7. Palau	1	1
8. Pohnpei	1	1
9. RMI	2	2
Subtotal Total	15	14
Grand Total	19	18