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AUTHOR Welch, Marshall
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ABSTRACT

Professionals Ready for Educational Partnerships (PREP) is a multimedia telecourse developed at the University of Utah to help preservice teachers, graduate students in education, and practicing teachers to understand collaboration. Using an ecological perspective, participants learn how to forge partnerships in the school, home, and community. PREP is needed because of growing cultural and linguistic diversity of students, the movement toward inclusion of students with disabilities, and the lack of teacher knowledge about how to actually practice collaboration. Course content includes: definition of collaboration; students at risk; problem solving; communication skills and conflict management; traditional and changing school and professional roles; traditional and alternative assessment procedures; adapting instruction; and school-based, school-home, and community-based partnerships. Each of the course elements is briefly described: textbook; 10 one-hour stand-alone videos; group breakout activities; support materials; and CD tutorials for each module. Evaluation of PREP revealed that certain media are better suited for some instructional activities than others. While students were expected to enjoy the CDs and videos, surprisingly they liked the breakout activities even more. It appears that stand-alone videos with support materials and breakout activities is a viable approach for technology-enhanced distance education. Likewise, the CDs were effective instructional tools, especially when the students worked in pairs. Significant cognitive growth occurred in all settings and with all types of students. (SV)

Marshall Welch
University of Utah
Department of Special Education
1705 E. Campus Center Drive Room 221
Salt Lake City, Utah 84112-9253

PROFESSIONALS READY FOR EDUCATIONAL PARTNERSHIPS (PREP): THE DEVELOPMENT, IMPLEMENTATION, AND EVALUATION OF A MULTIMEDIA DISTANCE EDUCATION COURSE ON COLLABORATION

Professionals Ready for Educational Partnerships (PREP) is a multimedia tele-course that utilizes a textbook, stand-alone videos with breakout activities, interactive viewing guides and support materials, and CD tutorials. PREP was developed at the University of Utah to help educators understand and practice various forms of collaboration. Using an ecological perspective, participants learn how to forge partnerships in the classroom, school, home, and community. There are two primary reasons why PREP is needed.

First, schools continue to include students who come from various backgrounds with an array of complex needs. This includes students who are culturally, ethnically, and linguistically diverse. Additionally, more and more schools are moving toward the inclusion of students with disabilities. Teachers, administrators, and specialists cannot be expected to meet the needs of this diverse group of students on their own. Consequently, educators have recognized the need for establishing educational partnerships and collaboration.

Second, despite recognizing the need for collaboration, most educators do not know how to actually practice it. Professional preparation programs often do not include coursework on collaboration. Some disciplines may include certain components of collaboration, such as interpersonal communication skills. However, most educators have received little to no instruction on how to form and maintain educational partnerships.

Audiences

PREP has been designed for use with upper-level undergraduate pre-professionals in education, lower-level graduate students in education, and practicing professionals in staff development programs at the building or district level. PREP can be used as a stand-alone course in distance education programs. We encourage staff development coordinators to consider using a "trainer of trainer" model by preparing district inservice coordinators to deliver the PREP program to a variety of school settings.

PREP could be used to prepare any and all educators, regardless of their discipline. PREP is more effective when educators from various disciplines participate and share their various expertise and perspectives.

Content and textbook. The content of the multimedia program was based on a textbook written by Welch and Sheridan (1995) and commercially published prior to producing the videos and CDs. The text serves as the foundation for the multimedia program's information. Participants are required to read specific chapters from the text prior to viewing the video presentations just as students would have reading assignments prior to a traditional lecture-based course. Specific topical areas of the video modules correspond to chapters from the text. The topical areas include: (a) what is collaboration? (b) students at risk, (c) problem solving, (d) communication skills and conflict management, (e) the traditional and changing school and professional roles, (f) traditional and alternative assessment procedures, (g) adapting instruction, (h) school-based partnerships, (i) school-home partnerships, and (j) community-based partnerships.

Videos. The instructional program consists of ten video presentations that reinforce information from the textbook. The video presentations were professionally produced by Media Solutions of KUED, a PBS affiliate station at the University of Utah. The videos employ a documentary format rather than a video taped lecture of an instructor speaking from a podium. A professional narrator provided an aural presentation of information. Documentary footage or graphical text supported the narrative. Interviews with nationally recognized experts are included in each video presentation to present a rationale and theoretical principles associated with a given topic. The interviews are then complimented with documentary footage of practitioners applying skills or techniques related to the theoretical concepts described by the experts. The video presentations serve as a virtual field trip by "bringing" other educators and settings to the viewing site. Each video presentation begins with a "pre-flection" activity and discussion to activate participants' prior knowledge and experience. The pre-flection discussion targets topical areas that are revisited following the video presentation during a post-viewing discussion to ascertain if participants' understanding was improved. Likewise, participants review instructional objectives enumerated in their support materials. The video presentations have what can be thought of as "bookend" discussions to initiate and review key concepts.

The actual running time of each video is less than one hour, with an average duration of 52 minutes. However, the videos are not viewed in a continuous manner. Instead, each presentation is interspersed with guided and directed breakout activities approximately every 15 minutes to reflect some of the components of effective video-mediated instruction suggested by Reeves (1989).

Breakout activities. Each video presentation includes a visual cue to the instructor or facilitator to pause the video and lead participants through a variety of discussions, exercises, or role playing scenarios. This represents one of the salient features of effective video-mediated instruction described by Reeves (1989). Breakout activities are presented in the accompanying support materials that are described below. The activities range from 5 to 15 minutes in duration. Depending on the nature of the task, breakout activities can be conducted with an entire group, smaller groups, student dyads, or individuals. This approach promotes active, rather than passive, viewing and interaction on the part of the participant. Breakout activities have been used extensively in a distance education program for preparing prospective special education teachers in rural areas (Sebastian, Egan, Welch, & Page, 1996) and during a video-based staff development program (Welch & Sheridan, 1997).

Support Materials. Participants are provided with hard copy notes for each video presentation. These notes represent an acquisition outline in which key concepts, definitions, and procedures are included on the printed page to minimize the necessity of copying information as in the case of traditional note taking. The presentation format utilized various approaches described by Cyrs and Smith (1990). The printed information is presented on the left side of the page allowing the remaining space to be used for supplementary note taking. The support materials facilitate active interaction and engagement on the part of the viewer. The degree to which participants write notes varies from individual to individual. The instructor or facilitator has a master hard copy of the support materials plus an electronic version on the facilitator's CD that can be printed and then copied and obtained by participants and then placed into a three-ring binder. As in the case of college and university courses, students bought a copy of their support materials at the bookstore at the same time they purchased their textbook.

CDs. Ten cross-platform CDs are used for each module. As the project was developed, the CDs were originally conceptualized as "cyber quizzes" to replace traditional paper/pencil quizzes. It was felt during front-end evaluation that this medium could be exploited in a way that went beyond the limitations of the traditional pencil/paper medium of quizzes. Participants were assigned to a designated computer lab to check out the CD for a specific module. The CDs consist of ten multiple-choice probes that incorporate text, full motion video, and audio. Participants read a question and then select a response. An initial correct response is awarded 10 points with additional text and sometimes, video or audio information explaining why the response was correct. If, however, the initial response is incorrect, a score of zero is awarded with an explanation why the response was incorrect. The participant is also encouraged to try again. A score of five points is awarded when the correct response is finally identified. The CD program automatically tabulates the participants' scores as well as the

number of "hits" or attempts to respond to a probe question and the amount of time spent on the item. This information is downloaded and reported in a table format as an electronic grade sheet by the facilitator.

Formative Evaluation of Consumer Satisfaction

Participants in each field-test site were asked to complete a 45-item survey to assess their overall satisfaction with the three major components of the multimedia product: (a) video presentations, (b) breakout activities, and (c) CDs. These surveys were completed approximately ten weeks into the 15-week semester. There were three dimensions for each of the three components. One dimension asked participants to rate the aesthetic production quality. The second dimension asked participants to rate the clarity and achievement of instructional goals. The third dimension queried learners' assessment of the instructional organization. Participants were asked to rate the content of the course as part of the fourth dimension. Three questions were posed for each of the three dimensions. A fourth category assessing participants' overall judgment consisted of 3 items, one for each of the multimedia components. The first question asked participants to rate the aesthetic value and production quality. Participants were asked in the second question to rate to what extent each of the components achieved their instructional goals. The third question assessed participants' perception of the overall instructional quality. Finally, participants were asked to rate the quality of content in each of the three multimedia components. The survey instrument employed a 4-point Likert-type response format (4 = very good, 3 = good, 2= poor, 1= very poor). This survey was inadvertently omitted at Sites 1 and 2 and only administered at Sites 3, 4, and 5.

Quantitative Evaluation of Learners' Experience

Quantitative methodology was used to assess learners' experience with this multimedia product was to measure student outcomes. The dependent variable used the t pretest/posttest measures on participants' cognitive knowledge related to collaboration. The cognitive assessment consisting of 33 multiple-choice questions administered via paper and pencil. These questions directly reflected the participants' understanding and knowledge about vocabulary terms and concepts pertaining to the course content in which participants were enrolled. Each question was directly tied to learning objectives from the textbook used in the course. The instrument was developed by the one of the authors and a graduate research assistant. The instrument was sent out to a panel of six content experts (one being the other co-author of the textbook) to assess content validity. Revisions based on the experts' comments were made. A test/retest was conducted spring quarter 1998.

Thirty-five undergraduates enrolled in two sections of an introductory course for special education participated in the test/retest. The same form of the test was administered and then two weeks later re-administered by the graduate/research assistant. A t-test for paired samples was conducted and no significant difference was found between the two measures $t(1,34)=-.95$, $p=.347$, and a test/retest correlation measure of $r=.775$ suggesting a minimum degree of stability/reliability in test scores.

Qualitative Evaluation

Qualitative methodology was incorporated as a form of social validation to gather consumer satisfaction information as a means of assessing multimedia integration and learners' experience. Schwartz and Baer (1991) suggested social validity is two-part process: (a) collect an accurate and representative sample of opinions and, (b) use the information to sustain or change a program to support its feasibility.

The focus group interview was semi-structured and administered by a contracted evaluation specialist or the graduate research assistant of this project. The interview consisted of open-ended questions. Each focus group interview was taped recorded and conducted approximately during the tenth week of the 15 week semester in three sites and immediately following the last class session in two sites. To ensure integrity, the same focus group questions were read aloud with pauses between questions for the participants to answer. The focus group portion

of this study addressed three questions: (a) what are your impressions of the video presentation provided in this course? And why do you feel this way? (b) What do you think of the breakout activities provided in this course? And why do you think this way?, and (c) What are your impressions of the CD provided in this course? And why do you feel this way? These questions reflected the basic content of the formative evaluation survey described above.

Data Analysis

Quantitative Analysis

Statistical analysis was performed on the pretest and posttest measure of cognitive knowledge. A parametric statistical analysis is appropriate when the cognitive knowledge measure collects interval type data with a sample size greater than fifteen. Therefore, an analysis of variance (ANOVA) was employed with two groups of more than fifteen participants. The ANOVA was performed to compare differences between the pre and post measures of the cognitive survey. A paired t-test was implemented with three groups consisting of less than fifteen participants. This analysis was conducted to assess differences between pre and post measures on the cognitive measure.

Qualitative Analysis

A review team consisting of graduate students with experience in qualitative methodology independently analyzed the focus group transcripts. To enhance the validity of this analysis, the technique of triangulation (Patton, 1990) was used. Individually, each member of the graduate research group analyzed the transcripts for emerging thematic units and then they discussed and compared their finding as a group.

Results

Formative Evaluation of Consumer Satisfaction

A total of 50 surveys from 3 test sites were usable to tabulate descriptive means (see Table 2). The average mean response of the four questions in the video component was 3.25 (SD = .54) on a four point rating scale. 94% of the responses were either "good" or "very good". The average mean rating for the breakout activities was 3.24 (SD = .64) with 92% of the ratings being "good" or "very good". The average mean rating for the CDs was 3.19 (SD = .76). Of those responding, 86% of the ratings was either "good" or "very good." The mean rating of the four dimensions within the videos, breakout activities, and CDs was also calculated. The overall mean rating of the aesthetic production quality of all three multimedia components was 3.26 (SD = .60). Participants' overall mean rating of clarity and achievement of instructional goals was 3.22 (SD = .59). The mean rating of instructional organization of all three multimedia components was 3.21 (SD = .60). The overall content had a mean rating of 3.20 (SD = .58). These combined ratings suggest that respondents generally found the overall quality and effectiveness of the videos, breakout activities, and CDs as "good."

Quantitative Results

The ANOVA and paired t-test results revealed significant growth on the post measures scores for all five sites (see Table 3). The on-campus post-bachelors group without the CD component at a public university (Site 1 - n = 28) had a post mean score of 23.64 which was significantly higher than the pre mean score of 16.04 [$F(1,55) = 27.94$, $p < .001$]. The on-campus post-bachelors group using the CDs at the public university (Site 2 - n = 28) had a post mean score of 23.54 which was significantly higher than the pre mean score of 15.04 [$F(1,55) = 83.52$, $p < 0001$]. However, an analysis of covariance (ANCOVA) indicated there was no statistical significant between the group using the CD and group that did not [$F(1,55) = .195$, $p < 661$].

The post mean score of 24.0 in the distance education group affiliated with the post-bachelors program at a public university (Site 3 - n=10) was significantly higher than the pre mean score of 17.5 [$t(9) = -6.412$, $p < .001$]. The undergraduate group at the public university (Site 4 - n = 14) had a post mean score of 17.64 which was significantly higher than the pre mean score of 14.43 [$t(13) = -3.56$, $p < .005$]. The post-bachelor group at the private college (Site 5 - n = 9) had a post mean score of 19.44 which is significantly higher than the pre mean score of 16.11 [$t(8) = -2.774$, $p < .05$].

Qualitative Focus Group Evaluation

Video presentations. The participants had a range of impressions on the video presentation from mildly negative to very positive. The major focus of responses was related to the positive way the video presentation enhanced the participants' learning. Respondents felt the opportunity to see and hear how other teachers and school apply concepts was a positive aspect. One participant stated, "I like seeing and hearing from the teachers talking about things and not just listening to a professor speaking all the time." Another participant mentioned, "I like seeing and hearing the teachers and knowing what was going on out in the schools." Several considered seeing the application of specific concept or skill in authentic situations as being very effective. One respondent said, "I really enjoyed the videos that showed you how things are out there in the classroom." A few learners enjoyed the diversity in the ten modules. One participant mentioned how she learned more and remembered more from the videos. "I really enjoyed the videos and wished like the others had said there was more of the in schools and family life. I learned more from that and that's what I remembered."

Other comments were made about the opportunities to hear from experts and quest speakers. "I like it because it gave us the opportunity to hear from quest speakers and experts." One participant liked the videos and compared them to a visual field trip. A negative comment brought up by several participants was the inability to ask questions of the experts viewed in the video presentations. One respondent stated, "I appreciated hearing from the experts and teachers but I would of like them in person so I could of asked questions to them and have a dialogue." Only one participant she did not like the use of the narration with printed words. "The narration was a bit fast and hard to follow along while taking notes."

Breakout activities. All participants had a positive or neutral opinion regarding the breakout activities. The participants liked being able to discuss and apply what had just been viewed. "I really enjoyed the breakout activities and enjoyed being able to discuss with others what was being talked about." Similarly, several learners mentioned they liked being able to apply skills taught. "I like the breakout activities especially the ones that had to do with application of the skills." A couple participants agreed that the breakout activities were beneficial in that they didn't spend more than 15 minutes just watching the video. "I like how the breakouts were paced such that we didn't spend more than 15 minutes just watching the videos." One negative comment was made about being a part of the same group of all the breakout activities. "A limitation was being a part of the same group of people in the breakouts." However, it was clear from respondents that the facilitator plays a critical role in effectively conducting the activities and discussions. As such, facilitators must be adequately prepared for each activity and carefully monitor the activities.

CDs. A range from positive to negative impressions were expressed. Most of the negative comments were related to the multiple-choice format of probe questions. Participants felt that the multiple-choice format did not adequately measure or demonstrate what they had learned. "Having multiple choice questions for me is a bad way of showing what I learned." Another echoed that statement by saying, "I didn't like the quizzes but I would have disliked them more if they were regular paper pencil quizzes." Still another participant mentioned, "I like the CD-ROM but didn't like the multiple choice test questions." Many participants also reported their dislike of being assigned to a specific lab on campus to complete the CDs. Participants wanted to check out the CDs to use at the leisure and a more convenient location. This, however, was not possible due to limited supplies of CDs and possible limitations of hardware at home.

Aside from the negative comments about the multiple-choice questions, most participants reported the CDs as being beneficial. "I loved the CD quizzes because a lot of time I would get frustrated and ask why and with the CD I could go back and find out why." Several participants enjoyed getting the immediate feedback. A couple of participants liked the option of listening to an aural presentation while reading the questions. One respondent said, "I really like being able to see and hear something and not just read it." It was also suggested that the CDs be reconceptualized as a learning tool where students earn participation points rather than a grade for their responses. This would allow greater dialogue as learners take an active role in constructing their own learning experience.

Conclusion

The evaluation of PREP revealed that certain media are better suited for some instructional activities than other. While it was anticipated that students would enjoy the technological components of the CDs and videos, it was a surprise that students enjoyed the non-technological application of the breakout activities as much if not more than the CDs and videos. As such, it appears that the use of stand-alone videos with support materials and breakout activities is a viable approach of technology-enhanced distance education. Likewise, the CDs were perceived as effective instructional tools, especially when students were coupled into pairs. Consequently, the CDs are now being used with student dyads to earn participation and learning scores (PALS). Student outcomes suggest that significant cognitive growth occurred in all settings and with all types of students. Additional information about PREP can be found on the project website at www. prep.utah.edu. Training and dissemination information can be obtained by contacting the presenter.

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