ADULT LEARNING

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Instructional Technology

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Interactive Teleconferences

Buying the Right Computer System

Designing a Video Classroom

Innovative Programming to Empower Adult Learners

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D E P A R T M E N T S

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Innovating with Telecommunications

John A. Henschke

Although educators and trainers continue to find new ways to use telecommunications in distance education, one of the ongoing challenges is to provide programming that transcends the typical style of one-way communication from instructor to student. However, a telecourse offered last year by the University of Missouri-St. Louis combining video satellite transmission and live, participant and instructor teleconferences provides an interactive model that can assist other adult educators in overcoming this communications barrier.

The program, Foundations of Adult Basic Education, included nationwide satellite transmission (a special grant made it possible to defray the high costs of uplinking the video by the Educational Satellite Network (ESN)) of thirty, pre-taped, video lessons and four, hour-long audio teleconferences. During the teleconferences, participants were able to share processes they had used in their own programs and to discuss whether or not they agreed with the ideas presented in the videos and in the three, required, course textbooks.

The course focused on methods and techniques for teaching adult basic education (ABE) including basic reading, word recognition, writing, listening, job skills, and goal accomplishment. It also addressed learner characteristics, diagnosing needs and interests, identifying community resources, and evaluation. Course participants included ABE teachers and program administrators from eight states, including Missouri—teachers who completed the course were able to earn three hours of undergraduate or graduate credit, with Missouri teachers also receiving credit for certification.

Interaction with Technology Was Key

As our planning for the course evolved, various options were considered. From the beginning, we were aware that two components helped to ensure success when using media in education: integration of human and non-human resources and collaboration between educators and technologies. In addition, we wanted to give top priority to interaction, task-centeredness, individualization, and self-directed learning contracts. For this reason, we rejected an initial plan that called only for videotapes, printed reading materials, and assignments, in favor of one that added teleconferences to the above because of the advantage in the latter of live interaction.

Saturday Morning Telecasts and Pre-Taped Videos Produced Savings

The University of Missouri-St. Louis's Video Instructional Program (VIP) aired the telecourse via satellite throughout the U.S. for two hours on eight consecutive Saturday mornings, beginning

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on January 13, 1990 To save expenses, we chose Saturday mornings (at $140 an hour, this was the lowest-cost time period) and videotapes, which were one-tenth the cost of live lessons The video tapes—vignettes of ABE teaching practices—totaled fifteen hours The first teleconference was held after the first day's programs the other three were held on January 27 and February 10 and February 24 The teleconferences were recorded for later analysis, students could also purchase the tapes ($6 00 each)

Over half of the thirty-nine participants registered via telephone during the last two registration days They paid the normal university tuition fees and additionally paid the long-distance charges, averaging $40, for the teleconference As they registered, they were assigned to one of three groups and given a time to call a telephone 'bridge' number for the teleconference switchboard in Columbia, Missouri

VIP assisted students in locating receive sites—sometimes suggesting the local satellite dish dealer or a restaurant when educational facilities were not available All but one facility donated the time Most facilities taped the feed for students who could then watch the tapes later at a convenient time

Analysis Suggests Adding More Praise and Using Participant Ideas

At the conclusion of the course, the teleconference tapes were transcribed, coded, and analyzed according to such factors as group size structure provided by the instructor, and group interaction The interaction analysis was divided into four categories instructor talk/indirect influence, instructor talk/direct influence student talk and miscellaneous, or factors related to the media

Participants talked 41 percent of the time and of that, shared their experiences 24 percent of the time The instructor talked 22 percent of the time spending 5 percent of that time asking for shared experiences This 5 percent accounted for the time (24%) that students interacted (For purposes of analysis we considered interaction to have occurred when one person's behavior influenced another person s behavior, so that the communication roles of sender and receiver were interchangeable with each message) The amount of interaction according to group size was as follows

Group	Number of People in Group	Total Number of Interactions During Audio Teleconferences
A	19	40
B	14	35
C	6	19

Interestingly, although Group C was the smallest group, it generated the longest periods of interactions The participants agreed with conventional wisdom that the interactive arrangements helped to overcome telecommunications barriers, saying that the audio interaction made the course more productive for them

BASED ON OUR EXPERIENCE, we would suggest adding more 'instructor talk" for (1) praising or encouraging participant ideas in evaluating them as right, good, and appropriate, (2) accepting or using ideas of participants in the areas of diagnosing learning needs designing learning experiences, evaluating results and summarizing needs and (3) motivational lecturing We would also suggest having the audio conferences later in the course to allow participants more lead time to digest and apply the material in their own contexts before discussing it We also encountered production problems—large amounts of unproductive time because of equipment peculiarities—that need to be surmounted for future courses We would advise users of older audio bridges to consider the feasibility of obtaining state-of-the-art equipment The bridge system we used was voice-activated, which required participants to speak in clear, strong voices or the sound would clip —cut in and out This was bothersome to the users and impeded communications However as the participants grew accustomed to using the equipment the percentage of clipping decreased, although it didn t stop entirely

The question could legitimately be posed whether an equal amount of learning could be accomplished if only audio interaction were used with printed materials The cost would certainly be less without the use of the satellite component However, our experience suggests —in spite of the production problems encountered—that participants greatly enjoyed interacting with media and were more engaged in the learning process as a result