Project DEED, Distance Education for Education Diagnosticians. Putting Available Technology to Work via Internet for Rural, Bilingual Sites Along the Texas/Mexico "Border Corridor."

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Abstract: Project DEED is a four-year internet based special education personnel preparation program funded by the U.S. Dept. of Education, Office of Special Education Programs (OSEP) as located at UTB/TSC. The project involves the preparation of practicing, bilingual teachers located in 8 rural sites to become educational diagnosticians, assessing students with possible disabilities. Instruction is accomplished through a combination of available resources, i.e., multimedia modules in synchronous format with videoconferencing, CD-ROMs, email, chat rooms and local mentors. Extensive time was required for the initial videoconference setup between all nine distal sites. Although there remain a variety of ongoing, technology related problems, evaluative data available on completion of the second year of the project supports the use of multimedia modules in conjunction with videoconferencing in the preparation of rural, special education diagnosticians.

Overview

Use of the internet for one-way instruction is not particularly new, neither has it been actively employed in an interactive manner to deliver multiple-course programs. However, it would seem to hold promise for content delivery in a manner acceptable to, if not preferred by, consumers in rural, geographically isolated areas. With the advent of T-1 fiber-optic lines connecting the local school systems throughout South and South West Texas in the past few years, the internet has been made available as a vehicle for distal instruction. The project to be described herein is considered innovative in that it is new to the geographical area and combines a variety of available, relatively inexpensive technological resources in a manner directly relating to the learning styles of the targeted population. The intent of the project is the production of a cohort of bilingual educational diagnosticians in an area in which there is a serious dearth (Hausman, 1997).

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Federal legislation (IDEA, 1990, 1997) mandates the comprehensive individual assessment of school age students, i.e., from three through 21 years of age, to establish eligibility for special services. A variety of school-based personnel have been developed in response to these mandates, among them educational diagnostician. The diagnostician's certificate involves specialty training on a graduate level in a wide range of areas related to assessment. IDEA also mandates nondiscriminatory evaluation in the students' native language. This poses a problem in that of the 3,748,167 students enrolled in Texas schools, 46.4% were White (not of Hispanic origin), 36.7% were Hispanic, 16.9% were other minorities. Thus, minorities comprised 53.6% of the student population in Texas public schools with Hispanics as the largest minority group. Yet, only 10% of the active diagnosticians had Hispanic surnames (and not all were bilingual). Along the Texas/Mexico Border Corridor, i.e., an area extending 50 to 70 miles North of the border along the nearly 900 miles of its length, the proportion of Hispanic youth soars to a significant majority of students, particularly in the Rio Grande Valley (Texas Education Agency, 1996).

Project DEED was designed to connect the UTB/TSC site, via the internet, with 8 distal-based school systems located in the Border Corridor up to 400 miles distant. The cohort consists of 20 certified bilingual individuals (2 males and 18 females) currently employed with the public school chosen as a site. Program delivery involves

specially designed interactive multimedia modules (based on the QUEST utility package). The overall program was structured with reported preferred learning styles characteristics of Hispanic students in mind (e.g., Griggs & Dunn, 1995). For example, videoconferencing among all 9 sites during scheduled classes each week was selected to appeal to the traditional conceptualization of formal instruction, respect for authority, and need for cooperative or peer-based learning activities. The QUEST-based multimedia, interactive modules were also included to fit reported preferences for structure, vivid stimulus displays, variety and kinesthetic instructional approaches.

The QUEST utilities package (Allen Communication, 1998) was selected as the basis of module development in that it permits the combination of video clips, various illustration types, graphics animation, audio overlays, and text, all with preprogrammed instructions, into interactive modules designed for use over the internet. The modules consists of a compilation of frames containing color-coded text with specific concepts illustrated, and popup insets triggered to key underlined words or to provide in-text references. Extensive use of 'side bars' and animations has also found favor with the cohort members. Thus far, the module format that has been received most positively has included a brief overview of the focal topic, followed by simulation activities to allow learners to experience a variety of difficulties that, hypothetically, are experienced by students with disabilities. In addition, the content includes definitions (federal and state), terminology, student eligibility requirements, categories, history, legislation, and services associated with the specific topical area. Interspersed throughout the modules will be case studies or scenarios with questions similar to those included on the state mandated, certification examination. CD-ROMs mailed to the sites remain the preferred delivery system for high-security items such as test kit training units.

A variety of potentially useful videoconferencing systems were reviewed. The CU-SeeMe (1995) based ClassPoint and MeetingPoint software packages were selected due to the need for multipoint connections and as they were the most economical at the time. The primary problems we have experienced this first year of online classes have included (a) broaching a regional firewall (surrounding 5 of our 8 sites), (b) fine tuning the instructor (oncampus) setup (e.g., software as well as hardware), (c) arranging for site-based, site-supported technical staff to work together with the other schools systems technical staff members and (d) interconnecting differing computers and computer systems to function as an extended network. The forces of nature, including the effects of a hurricane also contributed challenges. Then, fine-tuning intersite connectivity is required to adjust to each of our university system's internet access upgrades, requiring extensive, readily available support from our Academic Computing department. Yet, the student's grades remain high, as does their reported sense of accomplishment.

Throughout the Fall, 1999, semester offering of the first online course (an introduction to special education), the sites used a conference telephone call and oncampus audio bridge to supplement the videoconferencing. Since March, however, our transmission delay time has significantly reduced as has the number of 'hops' reported between connections, and our audio quality has improved to the point that the conference telephone line serves only as a backup system.

References

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