ASSUME NOTHING! EXPECT ANYTHING! PREPARING FOR AN INTERACTIVE CLASSROOM EXPERIENCE

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Abstract

Interactive distance education is a technique of providing real-time instruction to learners who are located at a remote site from the instructor. Through the technology of interactive distance education, the instructor and learners have the ability to both see and hear each other during the instructional process regardless of their geographical location. This real-time interactivity among several remote sites is the major instructional advantage of this form of distance education. The purpose of this presentation will be to provide information concerning the effective planning and delivery of business courses via an interactive distance education setting. There were four different classes utilized for this project that included Cost Accounting, Income Tax Accounting, Principles of Business Finance, and Entrepreneurial Problem Solving. These are vocational/technical classes which are required within the Business and Office Technology major of Mississippi Gulf Coast Community College. All classes had both on-site and remote site students enrolled. The presenters will provide information based on both practical experience developed during the instructional process and current research within the area.

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Interactive distance education is the technique of providing live instruction from an origination site to students at the origination site and also located at one or more remote sites. In this type of distance education, the remote sites are geographically separated from the origination or broadcast site. This process utilizes both video and audio for real-time communication between all sites on the network. The video and audio signals are usually transmitted in compressed video format on communication lines such as a T1. In this way the individuals at all sites can see, hear, and actively participate in what is happening at all other sites on the distance education network.

Embry-Riddle Aeronautical University consists of many residence centers and locations. This system, we believe, would be of great benefit to Embry-Riddle Aeronautical University and to their students at their many locations.

This presentation is based on an analysis of various technical business courses which have been offered by the Mississippi Gulf Coast Community College district through an interactive distance education network. This network, the Community College Network or CCN, is based throughout the state of Mississippi. There are 24 sites on the CCN system which consists of all two-year colleges in the state and also includes the Cooperative Extension Service at Mississippi State University and the University of Mississippi medical Center. The primary purpose of CCN is concerned with advancing the quality of rural health activities and general education within the state. Classroom instruction through the various member sites is a secondary, but equally important component of the system. Almost all CCN sites have either originated or received some type of instruction since the development of the system in 1994.

The requirements for planning and delivering a technical business course over an interactive distance education network are not completely the same as in a traditional instructional setting. Therefore, the information provided in the presentation will look at those different requirements for instruction and their impact on the planning and teaching of interactive courses within a vocational/technical business curriculum. The four courses which were the basis for this presentation included Cost Accounting, Income Tax Accounting, Principles of Business Finance, and Entrepreneurial Problem Solving. All but the Cost Accounting have now been taught at least twice on the interactive network. It should also be noted that most courses have only been offered to students within the Mississippi Gulf Coast Community College system.

ADVANTAGES

There are several advantages to offering technical business and accounting courses on an interactive distance education network. These advantages would apply to other types of courses as well. First, most of these courses are either required or are program electives within the technical business program major offered by the three academic campuses of the college district. However, many of the courses offered within this major have chronic low enrollments on each of the three campuses. This produces a situation where the courses are usually canceled, yet they are still required by the students for graduation. Since there are currently no viable substitutes for the required courses the students who lack these courses usually have to settle for some unrelated course substitution simply to meet graduation requirements. Through the utilization of the interactive network, courses can be offered to students at all three campuses and therefore the courses have a greater probability of maintaining sufficient enrollment for the class to be offered. Also, these courses can be offered more frequently with success when drawing from multiple location. While one campus may not be able to offer a course frequently on-site, the "network" may offer that same course at least two times each year instead of once every two years.

This process of offering low enrollment courses to multiple sites also produces a more economically feasible situation for the college. Embry-Riddle Aeronautical University would also have a potential economic benefit. We are aware that often course offerings are limited to the instructors available at a given term. Also, class enrollment may be so small as to make it economically impossible to offer the class. By allowing students to enroll for a course offered at another location, the cost of the instruction would decrease - only one instructor would need to be contracted and more students would be enrolled allowing classes to be taught more frequently with good enrollments.

Another advantage is that students are offered a variety of instructional styles through the interactive distance education network. Offering courses on the interactive network provides an opportunity for students to receive instruction from a variety of instructors with different professional perspectives and interests. By interacting with instructors from other campuses/centers, the students are exposed to different ideas and techniques which they might not have encountered at their own campus/center. Different instructors have different perspectives and opinions on the same topic. Variety in exposure to these diverse perspectives and ideas opens the students to more opportunity to develop their own perspectives and opinions on a variety of topics. Students also observe the different points of view and learn to problem-solve from different perspectives. Even the interaction among students from the different sites can provide new and expanded educational possibilities for not only the origination site students but also the faculty.

The interactive component of the distance education network can offer learning opportunities for the students other than those provided by the instructor. One approach for using this technique is the integration of guest speakers. Through these individuals the students can be provided with pertinent information that is currently being utilized by business and industry in that particular field. This technique was used extensively in the Entrepreneurial Problem Solving course and also in the Income Tax course. The interactive network allowed the speakers to provide pertinent information to the students at all of the sites at the same time. Students have the opportunity to interact with professionals they might not (probably not) ever be able to question. Speakers can be attracted from a variety of backgrounds and locations. There have been occasions when certain guest speakers would not have been available if limited to one and only one location for presentation. These opportunities have elicited a lot of information that the faculty may not have had the specific expertise to explore or may not have thought to explore. On several occasions the guest speakers were actually located at remote sites from the classroom instructor, sometimes originating at a site with no students in the classroom with the guest. Remote origination for guest speakers, lectures, and other professionals in the field opens tremendous learning possibilities for the students and provides viable alternatives to the classroom lecture.

A major advantage associated with interactive distance education for the technical business students is the exposure to new and advanced communications technology. In the "real world" or work, being adaptable and receptive to new and emerging technologies is a primary asset for the student in the quest for professional success and advancement. Students should experience these technologies as much as possible in the classroom to fully understand how they can be integrated into various business operations. The simple classroom lecture can no longer provide all that is needed to ensure the success of the students once they have completed their degree program and began work. More and more, technological knowledge and problem-solving ability will be "the" marketable attributes of college graduates.

DISADVANTAGES AND PROBLEMS

"While distance education can solve many academic problems, it typically creates more than a few in the process" (Willis, 1993, p.3). As with all innovative endeavors, there are certain inherent disadvantages and problems which must be identified and solved to ensure the effective operation of the interactive network. This is especially true when working with technologically advanced systems such as those utilized for interactive distance education. Therefore, it should not be a surprise that the first disadvantage relates to network down-time. Any electronically supported network will face the usual array of possible problems such as those associated with communication lines, electrical power interruption, and malfunctioning equipment. Although most of these situations are beyond

the immediate control of the distance education administrator, efforts must be continually made to eliminate all manageable network problems. Recently, we have seen a tremendous improvement in the system. We lose fewer and fewer class hours due to system problems than when the system began operation in 1994. However, procedures must be established for the faculty and students relative to problem situations which cannot be immediately solved with the available personnel or resources.

Another disadvantage concerns the instructional materials utilized by the vocational/technical faculty for their interactive classes. In many instances, the instructional materials which the faculty incorporate into their "regular" or traditional classes will not translate completely to the interactive environment. Faculty training is a must to acquaint them with the limitations of the system in presenting/preparing instructional materials. If the faculty do not receive appropriate training on the design and utilization of instructional materials for the interactive network, then an extensive amount of time will be lost during the term trying to catch-up in this important area. Faculty training should be based on the type of hardware that makes up the interactive technology of the network. Since not all systems have the same hardware configurations, training must be customized to meet the needs of the faculty based on the technology found within their institution.

One disadvantage reported by faculty concerns the administrative component of the interactive course as they relate to the origination and remote sites. Such aspects as class scheduling including campus location and time, faculty office hours for remote site students, counseling, transporting class materials and tests, will all have a varying degree of impact on the instructional effectiveness and efficiency of both the course and the instructor. Adequate time for faculty planning of such administrative tasks is essential to prevent the need for "crisis management" of the interactive class during the term. Faculty must plan far in advance in order to design and have materials at the remote site locations when needed. Sometimes a FAX is sufficient to get materials to the remote site locations in a timely fashion. However, that is not the case 100% of the time. Advance planning is a MUST!!!

INSTRUCTIONAL EXPERIENCE

For many vocational/technical faculty the thought of offering a course via live television within an interactive distance education environment is a frightening concept. This can be especially true for some technical business courses which have been traditionally taught utilizing the lecture technique and the chalkboard. Alterations in the instructional techniques and styles were the greatest challenges incurred by the technical business faculty teaching these interactive courses. Changes included such components as presentation, instructional materials, student interaction, technology (equipment) awareness, and even personal appearance.

Although the lecture, with interactive

components added, is still the major instructional technique even with the network classes, the chalkboard as the support component has basically been replaced with the documents camera which is part of most interactive video networks. Faculty must remember, the documents camera is NOT a chalkboard! As an example, faculty who usually use the chalkboard for working cost accounting problems must now alter that approach and materials to fit the requirements of the documents camera. The same process is also true for working formulas associated with the Business Finance course and completing tax forms for the Income Tax course. Traditional materials from the publishers do not usually translate well when depending upon the documents camera. Faculty must remember that they are, in effect, preparing a television show. The materials used on the documents camera will be seen on a TV screen not only at the remote site location, but also in the originating classroom. ALL students must be able to read any material presented on the screen. Some faculty have found that for working problems such as in cost accounting, finance, and tax that white paper and a medium-tip marking pen works well. The white paper substitutes for the chalkboard and the marking pen for the chalk. This enables all students at all locations access to the same materials and instruction.

Questions concerning fair use in the application of the federal copyright law and the broadcasting of certain instructional materials on an interactive distance education network must also be answered based on the most current available information. There are still many questions remaining in the "fuzzy" area of educational fair use of copyright protected materials and also how the law applies to an interactive distance education network.

Another consideration of the instructional approach used by the faculty relates to the process of facilitating interaction between and among the students at all sites. Learning within any setting is an active activity itself, however, effective student interaction is an essential component of any interactive distance education course. Simple things such as knowing the names and asking questions of individual students at all sites will facilitate interaction. The faculty member should also look at the camera broadcasting the video signal to the remote sites approximately once every twelve seconds to give the impression that they are looking directly at the remote site students. There is also a tendency for faculty to look at the front remote site monitor when talking with the remote site students. This gives the impression of the faculty member talking to the side of the monitor instead of directly to the remote site students. This situation can be avoided if the faculty member will remember to look and speak directly into the instructor camera. Interactive distance education requires a constant attempt by the faculty to ensure the involvement of all students at all sites with the course, materials, and instruction.

Modifications to the individual teaching style of the faculty can also be the

result of the various equipment components which make up the technology for the network. The most obvious change for the faculty is the restricted movement caused by the instructor's microphone cable. Faculty that walk or move about the classroom extensively during their normal teaching style sometimes find it difficult to adjust to the interactive distance education environment. Although a wireless microphone can be used, by restricting the movement of the faculty with the microphone cable, it is easier to keep the faculty in frame so that the picture received at the remote site is not distracting to those students. This is a very important consideration since all the remote site students have for instruction is the television picture on the monitor received from the origination site. Faculty must remember they are "putting on a show" and must stay within the confines of the camera.

IMPACT ON LEARNING

The impact on learning for the interactive network classes was generally positive based on the grades, attendance, and participation by the students in the different technical courses. Most of the students asked at the end of each semester when the college was going to offer more of the classes on the network since many of the technical business courses were in a low enrollment area for each campus. The classes offered have been very well received. Some faculty believe that interactive classes have higher grades than the traditional classroom setting, possibly for the following reasons: (1) interaction between the instructor and the students and among the students themselves is usually high, and (2) the opportunity and availability of guest speakers. Both of these factors appear to keep attendance and interest high. Boredom is usually not a problem in the interactive classroom. Students exhibited an eagerness to be involved with network classes and were recommending these classes to other students. These student recommendations are viewed as an indication of a very positive educational experience developed and presented in an innovative setting. Interaction between the students at all site locations is also a factor. The students appear to really like to share information and experiences with each other and to find out what goes on at the other campuses/centers. This contributes to a positive learning experience.

RESEARCH

The amount of research available relative to the many components that make up an interactive distance education network is not extensive. This task will also be made somewhat difficult because of the nature of the instructional environment, the relatively recent development of interactive distance education, and the ever changing aspect of the technology. The following analysis will look at several areas that impact the overall effectiveness of interactive distance education including faculty training, administrative considerations, and student attitudes.

The success of any interactive distance education program will require extensive training for the faculty before classes are offered on the network (Carter, 1995). Instructional planning is a very important part

of this training process. This concept is supported by Price and Repman (1995, p.251) when they state that "The effectiveness of courses delivered over a distance, like face-to-face instruction, depends on the planning of the course, class activities and the instructional materials used." The need for appropriate faculty training in all aspects of the interactive classroom is imperative to ensure that the instructional planning and presentation process will meet the needs of both the faculty and the students to be served.

Administrative considerations within the training process for the faculty would include such components as instructional support materials, lead time for getting materials to different sites, hardware/software availability, local library facilities and holdings, classwork/homework, and test. Although these items may seem insignificant in relation to other instructional problems, each of these components will require extensive planning by the faculty to ensure the effective operation of the interactive course. It should also be noted that adequate preparation time must also be provided to the faculty in the planning and development of appropriate instructional materials for the interactive course. The instructional materials utilized for traditional classes do not always "fit" the technology of the interactive classroom. Without adequate planning for all of the administrative components, serious problems can arise for the faculty when dealing with the educational needs of the technical students, especially those at the remote sites (Carter, 1995).

One area of research that is of a concern for the faculty relates to the attitudes of students who have taken courses through interactive distance education (Jurasek, 1993; Schlosser and Anderson, 1994). Results from this research can assist faculty in the planning of an interactive class in order to avoid potential problems identified with other distance education endeavors. Interaction between the faculty and the students at all sites, but particularly at the remote sites, is one aspect that has proven to be an essential component to the success of any interactive class (Rezabek, Cochenour, Bruce, and Shade, 1995; Lott and Carter, 1995). The goal of interactive distance education is "to make the experience of the remote student comparable to the experience of the local learner" (Simonson and Schlosser, 1995, p. 13). The quality and academic integrity of interactive distance education will suffer if the educational experiences provided are not the same for all students at all sites on the network

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