

DISTANCE EDUCATION EVALUATION – THE NEXT STEP

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ABSTRACT

Although distance education is not a new concept, the recent emergence of technology has greatly increased the number of available courses. With this increase, new ways are needed to adequately evaluate the quality and acceptability of both the course and the delivery method. Accreditation is one option to ensure quality courses. However, before any course can be evaluated on a national level, it must be evaluated and improved on an institutional level. Some issues that should be considered include: acceptability, content, delivery medium, learning style and personality of the student, and student comfort with the technologies offered.

Key Words: Distance Education, Evaluation, Accreditation, and Delivery Methods

INTRODUCTION

Distance education has been available since the beginning of the 19th century in the form of correspondence courses. These courses offered education and degrees to students who, for a variety of reasons, were not able to attend a school as a traditional student.

Today's students are the first true Internet generation (Chiaramonte, 1997). Their expectations and style of learning are influenced greatly by the computer and other multimedia. In a 1995 study, Collins surveyed 25 corporate executives in the hospitality industry regarding the impact of technology on their businesses. The results revealed that 88% believed that in order to stay competitive, advanced or "cutting edge" technology was essential. In support of this belief, 80% said that their companies' budgets for technology would increase within the next five years. The use of technology in the industry needs to start in the classroom. According to Kluge (1996), computers and information technology are critical components of the hospitality curriculum.

Like distance education, hospitality education is an expanding field. In the past, becoming a manager in a restaurant or hotel meant working your way up from dishwasher or bell person and earning supervisory positions through a combination of longevity, skill, and seniority (Zhou, 1998). However, in today's complex global society, an increasing number of hospitality companies require college degrees of their middle and upper management. The hospitality industry is one of the fastest growing areas of the economy, and the need for qualified hospitality professionals has never been greater. In fact, all areas of the hospitality industry are experiencing vigorous growth: In 1997, 9.5 million people worked in the restaurant industry alone and this number is expected to reach 11 billion by 2005 (NRA 1998 Highlights). In addition, tourism is the third largest industry in the world today and in 1996, hotel sales reached \$75.4 billion. Currently, travel and tourism create one in every nine jobs globally (AH&MA, 1998).

With continuing industry growth, the demand for hospitality professionals is greater than ever. Confounding this need, many of the leaders in hospitality management are nearing retirement, so while the demand increases, the pool of available resources is shrinking (Turner, 1998). To meet this growing need, over 400 colleges and universities offer degrees in Hospitality Management (CHRIE, 1997). Between the years of 1970 and 1989, the gap in pay between college graduates and those with only high school degrees widened from 40% to almost 70% (Becker, 1995). This emphasis on education is encouraging many people already in the industry to further their education. However, because of personal and professional responsibilities, attaining a degree as a traditional student is not always possible. The marriage of distance learning, new technologies, and hospitality education offers the perfect solution for the nontraditional student who wishes to earn a college degree while remaining an active participant in the workforce.

This was confirmed in a 1995 study, in which the different factors that influence hospitality students' interest in distance education were examined. The results of this study suggested that the traditional student would probably not opt for distance education courses. However, non-traditional students, working people, and companies who wish to offer training and empowerment to their employees viewed distance education as a feasible alternative to the constraints of a traditional education (Iverson, 1996).

As the demand for distance education grows, the competition for students also will increase. Choosing the appropriate format for a given course will have a significant impact on its effectiveness and success. Although the material and content of the class will influence how that course is best presented, other factors must be considered. Learning style and student preferences need to be considered during the development stage of a course. Studies show that individual personality and learning characteristics can affect a student's success, acceptance, and problem solving abilities using different distance education formats (Cohen, 1997; Reed et al, 1997; Esichaikul et al 1994; Biner et al, 1995). Knowing if the students understand the concepts and materials presented is much more difficult in distance education than in the traditional classroom, so trying to match delivery method with learning styles of the target audience is especially important. Given the variety of technologies available, the inherent strengths and limitations of each venue must be understood to optimize the learning environment and to choose the best option for each course on an individual basis.

SATELLITE

Satellite courses, the oldest and most studied of the distance education technologies, can be broadcast to a great number of people at one time. Innovations in technology, which now allow for interactivity and multimedia enhancements, are taking satellite and telecourses beyond the traditional "tele-lecture" (Larson and Bruning, 1996). However, because of the high cost of satellite and transponder time (averaging between \$200 - \$800 /per hour) and the limited number of facilities with the necessary equipment and expertise, satellite teaching is feasible only if the number of students who can meet at each site is fairly large (U. of Texas, 1998).

COMPUTER-MEDIATED LEARNING

The computer has been described as the most versatile and rapidly growing option in the field of distance education. Moore's law states that computer power will double every 18 months into the foreseeable future. In addition, communications bandwidths (the lines connecting computers to the world) have become less expensive and more abundant. The affordability and flexibility of the computer as a teaching tool have made it a forerunner in the educational technology/distance education forum. The computer also has another advantage in the distance education race; it can be accessed from one's own home (Kinneman, 1997). Schneider, Glass, and Henke (1997) commented that the computer puts virtually any information or solution at your fingertips. This immediacy of response

and the variety of ways to access the material have changed the way that students learn and have made lifetime learning a real possibility.

Hypertext and hypermedia have become the primary modes of access and storage in the computer environment today. Text and media are displayed in the normal manner, but hyperlinks on the page allow the user to move through the information in a nonlinear fashion. These hyperlinks can connect users to additional information, new documents, or even quick-time movies and audio files. Hypertext can be used to travel around the World Wide Web (Webopedia, 1998). However, it also can stand alone using mediums such as Interactive CD-ROMs. The educational opportunities and uses for hypermedia and hypertext are virtually limitless. In addition, the ability to tailor the lesson to the individual student makes this technology extremely valuable as a teaching tool (Maddux & Johnson, 1997).

The Internet has quickly become the fastest growing delivery medium for distance education available today. Between November 1995 and March 1996, Internet access in the U.S and Canada increased over 50% (Maddux & Johnson, 1997). It has the capacity for both synchronous and asynchronous transmission and is able to access and download audio, video, graphics, and text all at a comparatively low cost. In addition, the Internet has worldwide access with over 25 million computers connected in more than 90 countries. This instantaneous connection across all boundaries has created a true “virtual community” (Hirumi & Bermúdez, 1996). However, the guidelines for creating a “virtual community” require more than just an Internet connection. Open communication and commitment from the teacher and the student have been identified as essential to the creation and maintenance of Internet courses. In addition, the remote nature of hypertext and computer-mediated learning requires a larger degree of self-discipline, motivation, and student initiative than is necessary in a traditional course (U. of Texas, 1998; Dede, 1996; Berge & Collins, 1995).

Although the phrases “Internet” and “World Wide Web” often are used synonymously, this is incorrect. The Internet refers to the physical network of computers that are linked via smaller, regional networks to create a global network. The World Wide Web is the body of information that can be accessed via the Internet (Webopedia, 1998). The information on “the Web” is maintained and managed by a variety of sources. Anyone with server access can publish documents to the web. Although this open access allows for a great degree of editorial freedom, it also means that the information accessed may or may not be accurate. When retrieving and using information via the World Wide Web, it is necessary to make sure sources are credible (Ferrell, 1997).

VIDEOCONFERENCING

Many of the complaints regarding distance education and computers are related to the isolation of distance students from both teachers and other students (Calvani et al., 1997; Hirumi et al., 1996). New developments in “streaming” technology has allowed “real time” communication between participants (Kinneman, 1997). Videoconferencing technology actually can create a more interactive environment than the traditional classroom by bringing in experts and groups that would not otherwise be feasible (Gottschalk, 1996). Despite many advantages, videoconferencing has limitations. Although the camera allows the participants to see each other, the quality is less than that of satellite or telecourse delivery. In addition, the display on the monitor does not pick up the subtle body language or unconscious signals that are used in face to face communication (NCET, 1996). Until recently, the equipment needed for videoconferencing was cost prohibitive for most colleges and universities. However, the hardware is now available at a cost that will allow this medium be a major market segment through the millenium (Webopedia, 1998).

VIRTUAL UNIVERSITIES AND OTHER DISTANCE EDUCATION RESOURCES

As the popularity of distance education has increased, the number of courses available at many of today's colleges and universities likewise has increased. Several institutions devoted exclusively to distance education have been created, even offering degree programs that don't require entering the classroom. The University of Phoenix and The Western Governors University (WGU) are examples of this new "Virtual University". The American Distance Education Consortium (ADEC), a consortium of land grant-colleges in cooperation with the National Center for Supercomputing Applications (NCSA), is developing an on-line Virtual Learning Environment (ADEC, 1996).

Corporate America and the military also are recognizing the potential value of technology and distance education. It can be developed as modular components that can be used to train and test staff and soldiers for competencies on-site. Modular training has the additional benefit of providing consistent and complete instruction to all students. The US Army has earmarked \$840 million over the next 13 years to develop a global program of distance education and training for their soldiers (Phipps et al, 1998). Technology is also enabling many corporations to offer employees the option of continuing their education and obtaining higher level degrees while remaining on the job. It is estimated that 31% of students enrolled in distance education courses have at least part of their tuition paid by their employers (DETC, 1998). This benefits both the employer and employee. It allows the company to retain valuable employees and engender loyalty, while the employees are able to expand their knowledge base and enrich their credentials to earn higher positions within the company.

GROWING PAINS

The expansion and increased popularity of distance education offers many benefits and advantages for nontraditional students wishing to advance their education. The proliferation of emerging technologies makes it difficult to decide on the best delivery platform, and the accelerated evolution of these technologies necessitates a continual upgrading and review of course presentation to ensure that the courses do not appear outmoded. As the acceptance of computer and internet-based courses increases, consideration also should be given to the cost and compatibility of software packages necessary to access the course information. In addition, the technological literacy of both teachers and students varies widely which makes it difficult to develop a course appropriate for veteran computer users and "newbies" alike.

A further issue that is causing great concern is variability of courses offered via distance education. There is no set standard of quality that must be met to offer a course nor is there any guarantee that the course will be accepted by another institution. In addition, the global nature of the Internet permits a course to originate or be offered anywhere in the world. Although this may provide many advantages for mobility and diversity, it adds to the problem of assuring that the course provides an accurate and appropriate education for students.

Another problem is that not all of the institutions offering distance education courses are reputable. There have been several incidents of fraudulent "universities" promising education, certification, or even diplomas to students who pay for the courses, only to discover that the degree is worthless. Many of these courses sound good, and the institutions often claim to be accredited but, upon further investigation, the accreditation is as fraudulent as the course. These incidents have caused many dissenters of distance education to dismiss all distance courses as products of "Diploma Mills." (Guernsey, 1997; Noble, 1998).

As distance education continues to increase in popularity and use, the lack of regulation and standards is creating problems for legitimate institutions and students in the form of financial aid. Title IV of the Higher Education Act, which deals with federal financial aid for students, was written for traditional institution venues. Unfortunately, not all of the legitimate distance education providers

qualify as eligible for financial aid under the current legislation. However, as more and more students turn toward distance education as an option, lawmakers must find a way to provide these students with the same services available to the traditional student. Therefore, clearly defined parameters for educational quality need to be defined in order to assist the legitimate students and to prevent misuse of these funds by the “Diploma Mills” (Haworth, 1998).

OPTIONS

Currently, no national standard exists for distance education. The California Community Colleges (CCC) Board of Governors (1998) recently revised their Title 5 regulations to ensure the quality of distance education courses and to set a standard that would allow course credits to be transferable to other colleges. The Board of Governors created the Distance Education Technical Advisory Committee (DETAC) to oversee and evaluate all distance education courses within the CCC system. Once DETAC has finished evaluation of existing courses, members then will advise in the development of new course models, implement changes to the current system, and recommend the appropriate changes to Title 5 regulations (Creed, 1997).

Although regional regulations help weed out many of the blatant abuses in distance education, the problem of consistency and transference of credits still remains. Without some basic guidelines, it is impossible to compare the requirements of one region to the next. One option that has been promoted highly as a possible solution is accreditation.

In 1955, the Distance Education and Training Council (DETC), a nonprofit educational association, established an accrediting commission for distance learning. This commission accepts and reviews applications for accreditation by distance education institutions. The commission then uses a variety of sources and procedures to evaluate the institutions and determine whether or not they are eligible for accreditation. Once accreditation is granted, the institutions must be re-examined every five years. As of 1998, 60 institutions offering over 400 courses have been accredited by DETC (DETC, 1998).

Currently, accreditation is voluntary, and the decision to apply is left to the institution. Many institutions feel that the time and expense involved in applying for accreditation are too great. Supporters of using accreditation for federal assessment point out that agencies such as DETC have policies and procedures in place and that these nationally recognized commissions are well qualified to provide a standard for distance education evaluation. However, many institutions have expressed concern that using accreditation to make federal regulations is, in essence, giving government policing powers to a private agency. Moreover, DETC is not the only recognized accrediting commission, so the question of which agency to use and how to distribute the power remains a substantial issue (Haworth, 1998).

Regardless of the system chosen for appraisal, the primary focus for evaluation should be the quality and value of the distance education course. Before the course is judged on a national level, it should be evaluated and refined at the individual and institutional levels.

EVALUATING DISTANCE EDUCATION COURSES

Distance education is only as good as the courses available. The distance student should receive the same quality education as the traditional student. This makes evaluating courses in distance education an essential part of the development process. In addition to a well-designed curriculum, the design of a distance course must take into account the separation of the teacher and student and ensure that the student receives the same education and opportunities as the student in the traditional classroom. The issue of technology also must be addressed. The technology used must be appropriate for the course content and “transparent.” The student should be focused on the material within the lesson and not the technology used to present the information.

Educators at the University of Idaho recommend utilizing several methods of formative evaluation. These methods include weekly postcards, e-mail, and telephone surveys. Having the students comment on the course using pre-addressed and stamped postcards on a weekly basis provides feedback. The use of e-mail offers a faster turnaround and helps the instructor maintain some form of personal interaction. Valuable information also can be obtained by speaking directly with the student over the telephone. The personal interview allows the instructor to ask open-ended questions and probe for more complex answers (Gottschalk, 1996).

For valid results, desired outcomes must be determined at the outset. Several aspects should be investigated when designing an evaluation plan. Among these is student performance, which can be measured using test scores and project grades in combination with pre and post tests. Tests administered some time after completion will help ascertain knowledge retention. Other areas of evaluation include: student comfort with the technologies used; appropriateness of assignments; clarity of course content; use of class time; effectiveness of teaching; and suggestions for improvement.

Woolf (1997) recommends a program of Continuous Quality Improvement (CQI). Distance education developers should survey students and course facilitators to determine how well the curriculum has been designed and the effectiveness of the instructional experience for both the student and facilitator. In addition, information about the students can provide valuable insight into the course's target audience and allow the course to be tailored to that market. One of the best ways to generate ideas for improvement is to ask the students. Often the best solutions are seen from the perspective of one who has taken the course and encountered the problems personally. However, the single most important aspect of evaluation is whether or not the student gained the prescribed knowledge and skills. It is not enough that students are able to regurgitate rote information; they should be able to apply that knowledge to real world situations and take away a practical understanding of the subject.

Reid (1997) of Kennesaw State University developed a 110-item assessment instrument that focused on two main issues: performance and fear/anxiety. The performance measures dealt mainly with the students' perceptions of the course and their reactions to the teaching method, student-teacher interaction, and the environment of the "virtual classroom". The second part of the instrument dealt with internal student issues of fear and anxiety. These questions help to determine student perceptions of distance education and their comfort level with technology as a teaching medium. As more and more classes move to an on-line format, the issues of technological literacy and aptitude will become of even greater concern.

Another approach is to add assessments on precourse preparation and interaction. By acknowledging the difficulties often encountered by students when first entering the course, many problems such as incompatible hardware or software conflicts can be identified and eliminated in future courses. Building an interaction component into the assessment process will help to find new ways to create a sense of community and improve the overall perception of course enjoyment (Kestor, 1998).

All of these evaluation techniques will provide invaluable information for course improvement and should be included in a plan for the ongoing evolution of any distance education course. However, all of the methods discussed use students taking the course as the primary source of information. Evaluation of a course should begin long before that course is ever offered to the students. Growing concern by legislative agencies and other federal interests make it especially important to ensure that the students receive a quality education the first time the course is offered.

WHERE TO START?

Evaluation should start in the development stage and continue throughout the process. However, once the course has been developed, the faculty or facilitator of the course and that faculty's colleagues should be the first line of evaluation. If possible, these colleagues should be recruited to represent the diversities that will be found in the students who eventually will be taking the course. People with different levels of knowledge regarding the subject matter and various degrees of technological literacy and comfort should be involved. Once the course has been revised using the recommendations of the faculty, it should be pilot tested with student volunteers. Only after the course has been polished and refined should it be submitted for evaluation to a class.

Although very little information is available regarding prestudent evaluation for distance education, the Institute for Computer Based Learning Technology Centre at the Heriot-Watt University in Edinburgh, Scotland has developed the Learning Technology Dissemination Initiative to advise faculty on the application and adoption of educational technology. As part of the implementation process, Harvey (1997) makes several recommendations for choosing and evaluating new educational software. Many of these recommendations and the details considered can be adapted to the evaluation of distance education courses.

The first area of evaluation needs to be the subject content and structure of the course; if the information is not appropriate, then the course is useless. The information should be presented in such a way that the lessons are easily followed and understood. When evaluating structure, the order of information and presentation style should be taken into account. In addition, the technology used should enhance the learning process and be appropriate to the presentation. Another aspect of evaluation is the usability of the course. Is the technology easy to use? Are the instructions sufficient and easy to follow? Is technical support available and is it adequate? It is not enough that the information be valid, it must also be accessible to the students. A third aspect of consideration is the pedagogy used. What teaching style and evaluation methods are used to measure student understanding and knowledge? It is also important that the level of the teaching be appropriate. A final aspect that often is overlooked is the aesthetics of the course. One of the advantages of distance education today is that technology can provide a richer and more interactive presentation than the correspondence courses of the past. Every advantage should be taken of these technological breakthroughs to make the course visually appealing and enjoyable (Harvey, 1997).

Crompton (1998) stresses three concerns for evaluation of educational technology: efficiency, effectiveness, and relevance. Efficiency refers to the process of development. The cost of the project should be considered. When evaluating costs, the time and effort required as well as monetary considerations should be included in the assessment. Alternative options also should be investigated. Is the approach used the best one for the objectives of the course? Is the technology choice the best, or would another delivery medium be more effective? Are the necessary resources available to build and sustain the course? Is the organization committed to the project? Effectiveness refers to how well the course achieves its objectives. Is the necessary information provided to attain the knowledge and skills promised? What impact will this course have on the student taking it? It is important that the course content and experience benefit the student. Have specific and obtainable goals been set, and is the substance to attain those goals provided? The third factor, relevance, will affect the student's satisfaction with the course. Are the scope and content of the course appropriate and presented in a way that will encourage student learning? Is the information timely and up to date? Many of the questions regarding attitude and perception of the course should be addressed when evaluating this factor.

CONCLUSION

Distance education continues to evolve as a teaching medium. Advances in technology are creating many different delivery methods for distance education and educational advancement. Much of the available research has focused on the perceptions and the acceptance of students involved in distance education courses. Satellite courses have been the primary focus of this research. However, little research has been done on the effectiveness of the various methods of delivery. The available research suggests that personality characteristics, learning styles, and the student's outside constraints affect how a student interacts and accepts the distance education experience (Esichaikul et al, 1994; Biner et al., 1995).

Green and Gilbert (1995) stated that education always has been attracted to technology as a teaching tool and enhancement. The "Microchip Revolution" of the previous decade has created a virtual Frankenstein. Technologies are evolving so quickly that it is impossible, both monetarily and pedagogically, to stay current. Furthermore, this increase in technology creates an expectation of increased productivity and the belief by many administrators that less faculty are needed to teach an increasing number of students. However, this is not the case. Although technology has helped reduce labor costs by limiting the amount of support and secretarial staff necessary, it must be remembered that these new technologies are merely tools to support teachers not replace them.

As distance education expands and evolves, the role of educators also must evolve. Educators must learn to be developers, facilitators, and evaluators of distance education courses. Competition is fierce for the distance education student, and legislation is being considered that will require distance education to be judged and evaluated for quality and legitimacy. Those who have not defined basic standards and practices for distance education quality and evaluation will be edged out. Those that focus their attention on the development of distance education evaluation today will be better positioned to create the precedents that will be used to set the standards for tomorrow.

Despite the limitations, distance education is the wave of the future. Although distance education is unlikely to replace the traditional classroom or university, the expanding distance market and evolving technology will have a profound effect on the way that colleges and universities function (Pelton, 1996). The teaching techniques of the past must be reviewed. New models are needed for distance education and informational technology to adapt to the students of today (Jonassen et al., 1995; Marsden, 1996). The traditional approach of the lecture-oriented teaching style is limited. A shift in both teaching and learning paradigms using the new technologies is necessary (Schneider et al., 1997). This influx of educational technologies offers a variety of options for teaching. The "one size fits all" concept of education no longer applies. The availability of computers and connectivity bespeaks of a "global schoolhouse" before the next millenium (Kinneman, 1997). Technology is changing at an unbelievable rate. It is easy to become enamored with the hype and gadgetry of new technologies and forget that the computer is merely a tool to implement change and that education is the true objective (Bates, 1997).

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