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Critical Success Factors for Distance Learning
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Abstract

Distance learning, despite being a relatively new phenomenon, has been incorporated into many college and university programs, both as single courses and in complete programs. Those institutions that have not already begun to offer distance learning are quickly developing courses and programs to meet the needs and demands of their students. While each institution has its own mission and goal for distance learning, there are certain things that need to be considered while developing or implementing a curriculum that involves education at a distance. This paper will explore distance learning from a macro perspective and suggest some critical success factors that will aid faculty and institutions in distance learning development. The author will also share anecdotes from his experiences.

Introduction

The Internet and the World Wide Web have revolutionized the way we teach, making it possible to move much, if not all, of what we used to do on paper into the realm of electronic media (Adams, 1998; Bender, 1995; Chimi and Gordon, 1997; Privateer, 1999). While the electronic classroom still revolves around the primary classroom document, the syllabus, this document is no longer a static paper contract, but a living, dynamic electronic web page with multiple parts and pieces all linked together using hyperlinks (Falcigno, 1995; Purao, 1997). The Internet has also made it possible to move the contents of the course on-line and new tools such as threaded discussion groups, chat rooms, and virtual lectures have made it possible to conduct a class entirely on line (Burns, 1999; Novitski, 1999).

When I was first asked to develop a distance learning course in 1997, I eagerly accepted the challenge. Since I was an early adopter of the Internet and WWW in my traditional on-campus classes, it seemed to be a logical and natural extension of what I was already doing. Much of my course material was already on-line and accessible through my course home page. I had detailed lecture notes and external links to other resources on-line and students were quite pleased with the amount of supplemental information that I provided them. What I was unsure of was how to duplicate the "classroom environment" in an on-line setting and how students would respond to the lack of face-to-face, personal contact typical of an on-campus course. Since I was going to teach two sections of the same course, one on-line and the other on-campus, I decided to undertake a study of student perceptions and the level of learning taking place [Papp, 2000; Papp, 1999]. What I have found over the last few years, after having taught three separate courses on-line (as well as talking at length with others who have also taught on-line) is that there are several critical success factors that enable distance learning to thrive. These factors will be discussed below.

Critical Success Factors

Intellectual property: Who owns the course?

One of the first hurdles that must be over come is the issue of intellectual property rights or ownership (AACSB, 1999; Quinn, 1996). Faculty spend a great deal of time developing course content, frequently incorporating material from their research or consulting that is sensitive in nature. They are understandably reluctant to place such material on-line if it will be accessible to anyone and, more importantly, will then become the property of their institution or the distance learning provider. One way to solve this problem is to formulate language that protects the faculty's intellectual property while enabling that faculty member to share material with the students. One such example is that of Connecticut State University. The AAUP faculty union and the University, in response to a grievance filed by the union on behalf of the faculty, developed the following language:

The content of an OnlineCSU course is the sole intellectual property of the faculty member who has produced it. The course number and "catalog course description" or "course outline" are the property of the Board of Trustees, Connecticut State University. The delivery system and any computer code are owned exclusively by and copyrighted by eCollege.com. eCollege.com, the eCollege.com logo, and the eCollege System 3.0 are trademarks or registered trademarks of eCollege.com. (http://OnlineCSU.ctstateu.edu, 2000)

Therefore, the first critical success factor is to provide faculty with a certain level of security with respect to their intellectual capital. Such a suggestion may seem ludicrous for those who come from the corporate world where the contributions of workers belong, in whole or in part, to the company that employs them. While academia
is similar to corporations in many respects, it is also quite different and by imposing similar policies on its faculty, Universities may find that the courses and programs are not as "robust" as they might otherwise be due to such copyright and intellectual property concerns.

Suitability for a DL environment

Another consideration for faculty endeavoring to teach in a distance-learning environment is the suitability of the course for such an environment. Certain topics lend themselves to this environment more readily than others. Courses that depend heavily or completely on face-to-face interaction among students are much harder to conduct on-line. While technologies like chat rooms, threaded discussion groups and virtual meetings can bring students together over great distances of time and place, they still cannot fully duplicate the dialogue of the classroom. Face-to-face interaction is still a key component of many courses and while technologies like threaded discussion groups and chat rooms can replicate some of communication between students and faculty, there is no way to entirely duplicate the interactive classroom environment. With this in mind, faculty need to analyze their pedagogical approaches and determine if their courses can be successfully adapted for an on-line learning environment.

Building the course: More than a day's work

Faculty should also consider the amount of advanced preparation that goes into a distance learning class. From personal experience, it takes a considerable amount of time and effort to set up the course for the first time and also a good amount of time to continuously update and maintain it. For example, it typically takes me 25% more time to conduct my distance learning class than my on-campus class as I have the added responsibility of responding to e-mail and threaded discussion postings. Faculty should consider using courses that they have previously taught in the classroom since they will have some idea of what works and what doesn't. It is important to note, however, that even if a course has been successful in an on-campus setting, it may not fare as well in an online environment due to problems such as lack of face-to-face communication and other logistical and technical issues. Thus, using a course that you are familiar with will make it easier to transition the course to the new environment.

Course content: To include or not to include?

Course content is an issue that has been raised quite often with faculty, administrators and students alike. Particularly, the use of exams and other instruments of evaluation have been hotly debated (Chimi & Gordon, 1997; Fischer & O'Leary, 1998). Should an on-line course be an exact duplicate of the on-campus course it mirrors or should slight modifications be made to account for the separation of time and space? Exams can be made sufficiently challenging that a student would not have a good opportunity to engage in academic misconduct (cheat). Faculty can also use spur-of-the-moment evaluations or “pop quizzes” to make sure students are actively and fairly participating. Phone calls to students can also be used as a “check and balance” when integrity is in question. As a result, the development of course content should be carefully undertaken to maximize the use of available technology and enable student learning.

Problems: Murphy was right!

Once developed, simply running the course can be an exercise in frustration if you are not prepared and do not have access to a good support staff. Problems can and will occur, both to you and your students. Once when I gave an on-line exam, the students all flunked the exam. I was devastated that I made the exam too difficult and that I had not prepared them for it well enough. Upon further inspection, I found that the server had crashed at the very moment that the exam was to be saved and all their answers were lost. They never knew what had happened. I gave them a new exam (different, of course) and they all did very well on it. Explaining the problem to them was more of a challenge than creating and administering the new exam. For the most part, they were all more than understanding the class turned out to be one of the most successful and rewarding I have had, both on and off campus. The moral of this story seems to be that Murphy was right and that you should be prepared for any eventuality. After all, how are such problems different from the classroom environment when the only bulb in the overhead projector blows out in the middle of class?

Distance Learning Platform: All or Nothing?

With respect to distance learning platforms, several different alternatives exist, including eCollege™, BlackBoard™, and developing a customized web platform from scratch.

The easiest option for those who are not well versed in technology is eCollege™ (www.ecollege.com). Although the cost per student is higher, they do provide a high level of support and guidance. They will, given sufficient lead time, transfer all your course materials from hardcopy format to web-ready format for you. This is a very desirable option for those who do not want to learn the nuances of HTML and/or do not have a lot of lead time to develop their course.

Another option is to use a software package like BlackBoard™ (www.blackboard.com), which will allow you to quickly and easily put up a course web site with
minimal development time and effort. They currently offer two options, a free but limited course page and an optional fee set up that allows you to have a totally private site for which you can charge students to enroll.

Finally, one can undertake the development of a complete website from scratch. This will provide the highest level of flexibility and customizability but also necessitates a strong background in technology and a willingness to spend considerable time up front designing the site.

Measuring success: Responding to Others

Once the hard work of development is done, will the course meet the needs of the students and be successful? How do you respond to the "nay sayers" who contend that distance learning cannot possibly compete with the classroom and students will either do much worse (because they do not have an instructor to guide and lead them) or much better (since the course will be too easy and/or have little or no accountability when it comes to assessment)? My answer is to run the course, survey the students, track their progress, and compare it to the traditional classroom environment (Papp, 2000). I have done this several times and the results support the literature's findings that there is no significant difference between the two environments from a performance standpoint (Russell, 1999).

Measuring the CSFs

Given these critical success factors, it is necessary to study each one in isolation and also as a composite to determine which factor(s) influence and impact student learning.

One way to assess the impact of distance learning is to assess which type of learning style the student exhibits. As this paper went to press, research was underway to determine whether students taking an on-line class learn differently from those taking on-campus classes. Students in both the on-campus and on-line sections of the same course were administered the Learning Style Inventory to determine within which type of learning style they are classified: concrete experience, reflective observation, abstract conceptualization, or active experimentation (Kolb, 1976). My initial hypothesis would be that students in the on-line class would be more oriented toward an abstract learning style; Kolb suggests that "an orientation toward abstract conceptualization focuses on using logic, ideas, and concepts. It emphasizes thinking as opposed to feeling" while "an orientation toward concrete experience focuses on being involved in experiences and dealing with human situations in a personal way. It emphasizes feeling as opposed to thinking" (pp. 68-69).

The critical success factors to distance learning previously mentioned will also be explored to determine their impact on student perceptions and learning outcomes. Initial results will be presented during the conference.

Implications for Educators

Many universities are beginning to look at distance learning as an alternative means of content delivery and to reach non-traditional populations (Bialaszewski, et. al., 1998; Fischer and O'Leary, 1998; Russell, 1999). The creation of a distance learning course has many rewards.

Students like using a technology that they will employ in the working world, one that facilitates their learning and allows them to learn on their own time in their own way. They also like that they can "attend" the class when it is convenient for them and complete the assignments on their own schedule. This is particularly important for schools that face a great deal of competition in their area or enroll students from a wide geographic area. Through distance learning, institutions can offer more sections and courses to students at times that are convenient for them. (Since they are our "customers", anything we can do to retain and please them is seen as a positive step).

From an instructor standpoint, several critical success factors can make the development and implementation of a distance learning course a fulfilling and rewarding experience. While technology will always have its little surprises and unexpected problems, good preparation can go along way toward making the transition to a distance learning environment easier. As the Internet moves further and further into the mainstream, distance learning will become a greater part of the educational process. It will probably never replace the traditional on-campus class, however it does provide alternative pedagogical approaches to learning and can make classes more fun and applicable and teaching more rewarding.

Acknowledgements

This paper represents research in progress and is designed to investigate not whether distance learning is appropriate, but rather which factor(s) influence student learning outcomes. It represents a multi-year study of more than 150 students completing distance leaning courses and traditional on-campus courses in a variety of platforms. Continued research is necessary to validate the critical success factors proposed here to determine how and when distance learning environments should be employed and what facilitates their use.
References


