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ONLINE EDUCATION:

THE CHANGING FACE OF HIGHER EDUCATION

by

Patrick G. Moore

A Research Proposal Presented in Partial Fulfillment
Of the Requirements for the Degree
Master of Education

REGIS UNIVERSITY

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ABSTRACT

Online Education:

The Changing Face of Higher Education

As the shift from an industrial economy to a knowledge economy advances, the demand for information will continue to rise. With knowledge becoming such an important asset, obtaining information is becoming more of a priority for our society. Higher education is responding to this demand with the use of online education. Technology now provides an avenue to obtain education over the Internet. Time, space, and distance limitations are no longer a deterrent to pursuing new information. As with any new technology, time is needed to refine and determine how to best use it. Online education is no different.

In this research project, the author articulates how the underlying fundamentals of teaching and learning do not change because of the media used. Perceptions of both online proponents and opponents are presented together with current research. Finally, information is provided on techniques to convert classroom content to online content, and to develop goals and business plans, including cost, quality control, and techniques to evaluate online programs. Chapter 4 contains the power point presentation used to illustrate these points to participants. In addition, the author includes interviews with three online providers.

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Chapter 1

INTRODUCTION

The following is a brief anecdotal example of online learning. Imagine coming to school on the first day and finding a locker with your name on it and the combination that you received earlier opens the locker. Inside the locker, you find a syllabus informing you of all the information the class will cover along with required books, reading assignments, assessments, and expectations. Also, you learn about other students who are enrolled in the class, but do not see any of them. You enter the classroom to find a chalk board with notes welcoming you along with all of the other students, but no one else ever shows up. Then imagine that you come back to your locker the next day to find a message slipped under the door from the instructor and another student. This continues for days but each day is a little different than the previous. You quickly learn that you can leave messages on the chalk board, chat with students who are not in the classroom, and slip notes under the locker doors of the instructor or any other students in your class. You begin to adjust to the new learning environment and enjoy the flexibility of your class. This experience could easily describe an online course learning environment.

Statement of the Problem

The use of online learning is quickly becoming a standard instructional delivery model at the higher education level. Also, the public debate over the merits of Internet based distance learning has become a topic of priority (Phipps & Merisotis, 1999).

Theoretically, if the curricular goals and objectives are met, then there should be no difference in learning outcomes between an online class and a face-to-face class. Philosophically, many people believe that brick and mortar classrooms are superior and provide a student with a better education. Either way, there are distinct differences in delivery. The question that needs to be asked of any new technology used in the educational process is: Does the media used change the educational theories and philosophies that a teacher uses in the educational process? In many cases, only time will tell.

Purpose of the Project

The purpose of this project was to develop a presentation for community college instructors in regard to online classes. The content covers: (a) fundamental principles of teaching and learning, (b) definitions of distance education, (c) perceptions and benefits of online education, (d) the importance of research and assessment, (e) moving courses online, and (f) a summary of interviews with three online providers. After the presentation, it is anticipated that the instructors will be better informed about online instruction and more aware of the logistics of online teaching and learning.

Chapter Summary

Pedagogy and learning theories have been in place for as long as there have been teachers and learners. However, as times change, so do pedagogical and learning theories, as well as the technology used to implement them. It is anticipated that the use of technology can play an important role in any educational process. The use of online

instruction is becoming more prevalent and an integral part of current college curriculum. The actual media used in the educational process may change, but the goals still remain the same.

In Chapter 2, a review of literature is presented to provide the basis for the presentation that was developed for instructors. In Chapter 3, the method used to develop the presentation is detailed.

Chapter 2

REVIEW OF LITERATURE

According to Whipple (1987), "Education does not consist of merely pouring facts from the teacher to the students, as though they were glasses to be filled with some form of intellectual orange juice. Knowledge is an interactive process, not an accumulation of Trivial Pursuit answers: education at its best develops the students' ability to learn for themselves" (p. 3).

The faculty of many universities and colleges has responded to the changing characteristics of their students and technology through the use of online education (Askov & Simpson, 2002). The number of higher education institutions that offer distance education courses outside the traditional classroom has increased from 33% in 1995 to 44% in 1998 (Askov & Simpson). Distance education course offerings and enrollments nearly doubled between 1994-1995 and 1997-1998, as did the number of degrees and certificate programs offered (e.g., 690 to 1,190; Askov & Simpson). Also, the use of online education has become more prevalent as an integral part of the current college curriculum (Bianco & Carr-Chellman, 2002).

Technology plays an important role in this educational process. The actual media used in the educational process may change, but the goals still remain the same. Although technology has been part of the curriculum for years in the form of movies, videos, recordings, slides, and projectors, access to the Internet may redefine how classes can be offered. Usually, early adopters of online learning used an already

designed classroom course and then added online components. Some of these components included: (a) email, (b) email-lists, (c) online submission of papers, (d) upload of the existing syllabus, (e) handouts and assignments, and (f) threaded discussions.

Fundamental Principles of Teaching and Learning

Successful teaching, according to Jones (2005), is based on three underlying assumptions.

1. To most effectively promote learning, teachers need to know something about how their students learn and how they themselves learn.
2. There are researched based general principles that teachers can apply to improve teaching and learning in any context.
3. Teaching is a complex and varied craft in which educators can excel by applying these guidelines to their disciplines, instructional environments and students. (pp. 1-2)

Also, there are 10 principles that Jones included in his lecture.

1. Active learning is the key to student understanding.
2. Learning requires focused attention and awareness of the importance of what is to be learned.
3. To be remembered, new information must be meaningfully connected to prior knowledge.
4. Unlearning what is already known is often more difficult than learning new information.
5. Mastering a skill or body of knowledge takes a great amount of time and effort. Learning to transfer knowledge and skills to new contexts requires a great deal of practice.
6. Interaction between teachers and learners and collaboration among learners are two of the most powerful factors in promoting learning
7. In order to be effective in teaching it is critical to provide opportunities for all learners to draw upon their intellectual strengths, that is, to learn in the ways in which they are strongest.

8. Basic personality traits affect how individuals perceive, think and learn. These differences in individuals' personalities and behavior may be inborn as may be differences in their physical characteristics and in their intellectual strengths.
9. The kinds and amounts of knowledge one has before encountering a new topic or question powerfully affects what one learns. Prior knowledge significantly influences the processing of new information.
10. The methods and timing of assessment powerfully affect what students learn and retain. (pp. 2-5).

These principles of teaching and learning are the same basic principles that are supported by other people in the field of education. In the article, "Meaningful, Engaged Learning" (n.d.), the author identified the following indicators and described their use as a *compass* for instructors to use to maintain engaged learning:

1. Indicator: Vision of Engaged Learning
   Engaged learning is when the learners are responsible for their own learning. These students are self-regulated and able to define their own learning goals and evaluate their own achievement. They are also energized by their learning; their joy of learning leads to a lifelong passion for solving problems, understanding, taking the next step in their thinking, and are able to collaborate with others.
2. Indicator: Tasks for Engaged Learning
   Engaged learning tasks need to be challenging, authentic, and multidisciplinary. Such tasks are typically complex and involve sustained amounts of time. They are authentic in that they correspond to the tasks in the home and workplaces of today and tomorrow. These tasks often require integrated instruction that incorporates problem-based learning and curriculum by project.
3. Indicator: Assessment of Engaged Learning
   Assessment of engaged learning involves presenting students with an authentic task, project, or investigation, and then observing, interviewing, and examining their presentations and artifacts to assess what they actually know and can do. The best performance-based assessment has a seamless connection to curriculum and instruction so that it is ongoing.
4. Indicator: Instructional Models & Strategies for Engaged Learning
   Design instructional models that encourages the learner to construct and produce knowledge in meaningful ways. Students teach others interactively and interact generatively with their teacher and peers.

5. Indicator: Learning Context of Engaged Learning

   For engaged learning to happen, the classroom must be conceived of as a knowledge-building learning community. Such communities not only develop shared understandings collaboratively but also create empathetic learning environments that value diversity and multiple perspectives.

6. Indicator: Grouping for Engaged Learning

   Collaborative work that is learning-centered often involves small groups or teams of two or more students within a classroom or across classroom boundaries. Heterogeneous groups offer a wealth of background knowledge and perspectives to different tasks. Flexible grouping is one of the most equitable means of grouping and ensuring increased learning opportunities.

7. Indicator: Teacher Roles for Engaged Learning

   The role of the teacher in the classroom has shifted from the primary role of information giver to that of facilitator, guide, and learner. As a facilitator, the teacher provides the rich environments and learning experiences needed for collaborative study. Often the teacher also is a co-learner and co-investigator with the students.

8. Indicator: Student Roles for Engaged Learning

   One important student role is that of explorer. Interaction with the physical world and with other people allows students to discover concepts and apply skills. (pp. 1-3)

All of the strategies above are related to any type of instruction. Even when the medium changes from a typical classroom setting to the use of the Internet, the goals of the educational process remain the same. As in all education, it is the design of the course, the learners themselves, and the approach the facilitator takes that makes the difference (Dewar, 1999).

Definition of Distance Education

Cyberspace/Online Learning is an environment that is accessible to learners and instructors who are separated by time and space (Conceicao, 2002). Participants are linked to a learning space through access to networked computers. Participants have 24 hour access to the servers and can connect to them to receive messages or post messages

to other participants. In online learning, it is assumed that participation in instruction is entirely online, without face-to-face interaction (Conceicao). Distance education is defined as "planned learning that normally occurs in a different place from teaching" (Moore & Kearsley, 1996, as cited in Askov & Simpson, 2002). Also, staff of the National Center for Educational Statistics defined distance education as educational and training courses delivered to off-campus students via audio, video, or computer technologies. Allen and Seamen (2003) provided a series of standard definitions based upon the proportion of content delivered online.

1. Traditional course: A course with no online technology used. Content is delivered in writing or orally. The proportion of content delivered online is 0%.
2. Web facilitated: A course which uses web based technology to facilitate what is essentially a face to face course. The proportion of content delivered online is 1-29%.
3. Blended/Hybrid: A course that is a blend of the online and face to face course. A substantial proportion of the content is delivered online. The proportion of content delivered online is 30-79%.
4. Online: A course where the vast bulk of the content is delivered online. Typical online classes have no face to face meetings. The proportion of content delivered online is 80-100%.

Perceptions of Online Education

Opponents' Perceptions of Online Learning

The continuing growth of courses being offered online has spawned both critics and supporters of online education. Bianco and Carr-Chellman (2002) cited Noble (2000) who maintained that online learning and technology are largely aimed at the politics of technology. Noble argued that the technology itself is value laden, and the demand for online education is nonexistent, created by university administrators. The use of remote learning does not offer the *social presence* normally associated with the physical classes. According to Hamilton-Pennell (2002), both teachers and students have reported that they miss the real interaction associated with face to face classes, and the feeling of isolation presents stumbling blocks to effective learning. Also, not all students are well suited for online learning. Conceicao (2002) noted that the key concepts of a successful online learner are:

1. Participation and motivation are necessary to function in an environment that lacks physical presence.
2. Self-direction is necessary for successful learning without face-to-face interaction. (p. 2)

According to Bianco and Carr-Chellman (2002), while the Internet is an excellent source of information, education is not merely the acquisition of information. If learning is based, primarily, on the acquisition of information, there is the potential to commodify higher education. That is, learning becomes a product for sale rather than the experience of learning and growth, and the major emphasis is shifted to a financial emphasis instead of a learning emphasis.

Hamilton-Pennell (2002) reported that some instructors complain that they lose much of their interaction with students, while other instructors feel that they lose the ability to be flexible and change course content as necessary because all of the material has been posted online. Also, usually the amount of time spent with online students is much more than a typical grounded class. Finally, physically observing and evaluating student participation and the instructor's delivery of an online class is extremely difficult with online education. Bianco and Carr-Chellman (2002) asked the question, "What sorts of things are we looking for, what type of instrument will help us to focus on those things?" (p. 6) As a solution, Bianco and Carr-Chellman attempted to observe online settings by reading through the ongoing synchronous exchanges such as chats and asynchronous discussion forum communications.

Chohen (2000) identified the following characteristics of the synchronous learning environment that challenge facilitators.

1. The lack of non-verbal cues. Communication is more open to misinterpretation and feedback requires more thought.
2. An increased expectation from learners that an instant technology means instant feedback. Learners are less tolerant of communication delays.
3. An increase in one-to-one communication. Facilitators need to customize responses to individual inquiries.
4. More knowledge, thought and effect are put into pacing, leading, and questioning. (p. 2)

Finally, Lowe (2003) asked, "What if American industries do not come to see online degrees as legitimate as traditional degrees?" (p. 8). Lowe pointed out that all academic disciplines are not appropriate for distance education. For example, with academic disciplines that require *hands-on* training, such as nursing, engineering, or

veterinary medicine, it is difficult to offer the same type of experience in an online environment.

Proponents' Perceptions of Online Learning

The supporters of online education envision a future in which students will come to universities only for the social aspects (Bianco & Carr-Chellman, 2002). Students have the ability to access course material at their convenience, and participation in online classes offers a different learning delivery format that fits some students better than others. Web-based learning allows for continuous monitoring of student progress and gives more time for reflection and participation by all students (Hamilton-Pennell, 2002). The use of electronic mail, computer conferencing, and the Internet increases opportunities for both students and faculty to converse and exchange work much more speedily than before, and more thoughtfully and *safely* than when they confront each other in a classroom or faculty office. Total communication increases, and the results can seem more intimate, protected, and convenient than the more intimidating demands of face-to-face communications with faculty (Chickering & Ehrmann, 1996).

Many administrators of institutions of higher education see distance education as attractive as they seek increased enrollments and decreased costs by providing high volume off the shelf courses (Askov & Simpson, 2002). Also, they have the ability to offer instruction without the concern of physical classroom space or the provision of office/lecture space for the instructor (Hamilton-Pennell, 2002). There are definite benefits to institutions when online education is used. It provides them with a way to attract an entirely new population of students (Askov & Simpson).

Students benefit from increased access, especially when they are constrained by geography, time, job, family responsibilities, and finances (Hamilton-Pennell, 2002). Those who live in rural areas can access classes that they did not have access to previously. Through the use of the Internet, students report a more engaging, classroom type learning experience than was possible with earlier, more static forms of distance learning. Some students find that online courses fit their learning styles better than face-to-face options (Hamilton-Pennell).

The Importance of Research and Assessment

Education is not an exact science, but it is too important to allow so much of it to be determined by unfounded technologies and uninformed opinions, whether of politicians, teachers, researchers, or anyone else (Borman, 2002). The research and development of the best quality educational interventions to promote the healthy cognitive development of students is every bit as important as the promotion of the best medical procedures to improve people's general health.

However, the proof or disproof of hypotheses is not the only reason the research findings are valued (Flinders, 2003). From an educational perspective, research is about learning to see and to hear. It is about the elucidation of the qualities and meanings of human experience, not all of which can be put into operation and then *tested* in the form of specific hypotheses. For this reason, research is like many other *educating* professions, in that, it does not follow a monolithic aim or a single set of practices. It cannot be expected that all teaching will conform to the same model, for example, nor that all students will learn in exactly the same way.

Current Research

With few exceptions, the bulk of the literature suggests that the learning outcomes of students who use technology at a distance are similar to those students who participate in conventional classroom instruction (Phipps & Merisotis, 1999). At the University of Illinois (1999), a seminar was conducted in which the participants concluded that online teaching and learning can be done at a high quality if new approaches are employed. Teachers need to compensate for the limitation of technology and make every effort to develop and maintain the human touch of attentiveness to their students. Also, they concluded that online courses may be appropriate for both traditional and nontraditional students; they can be used in undergraduate education, continuing education, and in advanced degree programs. However, the seminar participants thought that it would be inappropriate to provide an entire undergraduate program online. Phipps and Merisotis (1999) examine the issue of the effectiveness of distance learning by a review of the available evidence on the subject. This was accomplished simply through a thorough review of the literature and included everything from original research to how-to articles to policy papers. They limited the scope of their review to materials published during the 1990s. They reported that most students, regardless of the technology used, found that their experience with distance learning courses compared favorably with classroom based instruction, and both had a high student satisfaction (Phipps & Merisotis, 1999). In addition, many experimental studies suggested that distance learning students have similar grades or test scores or have the same attitudes toward the course. Allen and Seaman (2003) conducted a survey of online learning to find answers to key questions directly related to online learning. The following are some of their findings.

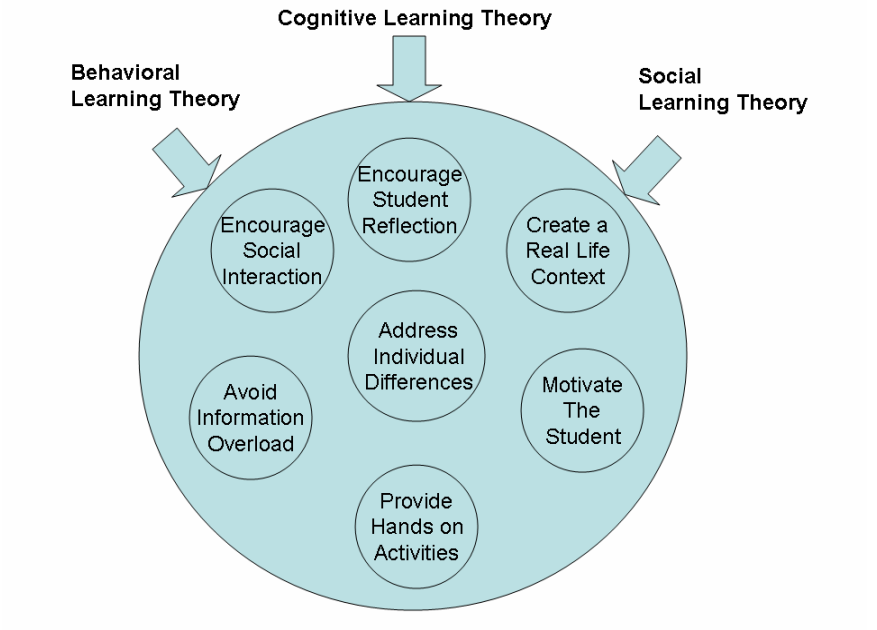
1. Quality was found to be as good and predicted by many colleges and universities to be even better in the future.
2. Faculty are beginning to accept the value and legitimacy of online learning.
3. In terms of sheer numbers of students, the overwhelming majority of online students are in public institutions.
4. The total number of online students continues to grow each semester. An overall growth rate of almost 20% was expected in the number of students studying online from Fall 2002 to Fall 2003.
5. For-profit institutions expect to grow their online learning component faster than any other institutions of higher education, expecting growth rates greater than 40%.
6. Private, nonprofit institutions are entering online education at a slower rate than public institutions, often leveraging their entry with blended courses.
7. When given an option to take a course online, students will enroll. On average, over 13% of students per institution that had online offerings took an online course in fall 2002.
8. Overall, attitudes of faculty at all schools (as perceived by academic leaders at those institutions) remain more conservative with regard to the quality of online education and its ability to equal face-to-face learning. (p. 26)

The Conversion of Classroom Content to Online Content

Roberts (1997/1998) developed a template for the conversion of classroom courses to distributed, asynchronous courses. First, Roberts noted that the objectives of the course must be clearly understood. Why does one teach the material and why would the instructor expect students to do it? The current content must be aligned with the objectives. Although the content may undergo notable change, the objectives should not be altered. Determine what can be learned by discovery (e.g., constructivism) or peer interaction (e.g., collaboration) rather than direct instruction. Remove content that does not align with the objectives. As students take increased control of the learning process, there is little need for content padding. Imagine if the instructor had a fully equipped multimedia classroom with a direct connection to the World Wide Web and no time

constraints; what would be done differently from what is done in the classroom now? Then based upon those answers from the above questions, a course structure, activities appropriate for the environment, activities that provide direct instruction for those aspects of the course, procedures to help students pace and assess their progress, and finally methods of evaluation that are appropriate to the medium would all be designed. Instructional designers must examine their traditional perspectives and adopt a new philosophy of teaching and learning that is appropriate for online instruction. This does not imply that traditional theories such as behaviorism should be tossed aside in favor of the more contemporary social constructionist theories. For example, quality online learning environments should be comprised of elements of behavioral learning theory, cognitive learning theory, and social learning theory (Johnson & Aragon, 2002). The primary factor in any instructional initiative, regardless of format or venue, is the quality of the instructional design that is ultimately implemented. Based on the lack of evidence that the use of technology markedly influences the learning process, scholars in the field of instructional technology now conclude that the technology used in an online program is not as important as other instructional factors, such as pedagogy and course design (Phipps & Merisotis, 2000). Johnson and Aragon (2002) contended that powerful online learning environments should contain a combination of the following principles: "(a) Address individual differences, (b) Motivate the student, (c) Avoid information overload, (d) Create a real life context, (e) Encourage social interaction, (f) Provide hands-on activities, (g) Encourage student reflection" (p. 4).

Figure 1. An instructional strategy framework for online learning environments



(Johnson & Aragon, 2002, p. 4)

Defining the Goals or Business Plan

When institutional administrators decide to offer online courses and programs as part of their core mission, Sjogren and Fay (2002) maintained that they need to consider the following:

1. What are the mission goals of the institution and which online programs are most likely to realize them?
2. Which programs have appropriately qualified faculty who are enthusiastic about this initiative?
3. Are there any disciplines or courses that cannot or should not be offered online? (p. 2)

Institutions need to consider costs and revenue and whether the program is expected to pay for itself or be supplemented. Other considerations could include a timeline for

online courses to become part of the curriculum. Should classes be integrated gradually, or is a rapid time frame an important goal as well?

Cost

The costs for the development of online programs fall into four categories: (a) course design, (b) course delivery, (c) faculty development, and (d) student support (Sjogren & Fay, 2002). Course design includes the establishment of the educational objectives, development and gathering of materials, and assembling them into a plan that meets the educational objectives. Learning objectives, preassessment, student assignments, and postassessment play a major role in the educational objectives. Course delivery involves the investment in technology and infrastructure that allows teachers to control the content of, and student access to, the material. Technology paths include some type of integrated learning management tool (ILM) or course management system (CMS) that can be homegrown, self-designed, purchased from a software development firm such as Blackboard or Web CT, or provided as part of the cost of an online class provided from a third party vendor (Abromitis, 2002; Sjogren & Fay). According to Coulter (2001**),** faculty development is necessary in order to prepare faculty to teach online classes. Faculty mentors should be available who are seasoned online instructors. If faculty members have someone to guide them, they can easily learn the techniques necessary to deliver an exciting, interactive online course. Student support includes the commitment to provide the same level of service that is available to on-campus students in addition to provision of technical support for the additional technology requirements used with online education. Such services include access to library materials, advising,

registration, financial aid, career counseling, and so forth (Sjogren & Fay). Additional costs include infrastructure and technical support. These costs are by far the greatest expense and include such factors as: (a) network capacity, (b) server installation and maintenance, (c) operating systems, and (d) helpdesks. All of these costs may involve major ongoing investments.

Quality Control

As with any instruction, quality is always important. The following is a list of benchmarks that resulted from a study prepared by The Institute for Higher Education Policy (Phipps & Merisotis, 2000):

1. Institutional Support Benchmarks: A documented technology plan including electronic security measures, quality standards, and support for building and maintaining the distance education infrastructure.
2. Course Development Benchmarks: Guidelines regarding minimum standards are used for course development, design, and delivery, while learning outcomes-not the availability of existing technology-determine the technology being used to deliver course content.
3. Teaching/Learning Benchmarks: Guidelines for constructive timely student interaction with faculty and other students is essential.
4. Course Structure Benchmark: Students need to be advised of the differences with online courses making sure that the technology, expectations, and access to "virtual library" and web are fully explained. Faculty and students need to be aware of expectations regarding times for student assignment completion and faculty response.
5. Student Support Benchmarks: Students receive information about programs, including admission requirements, tuition and fees, books and supplies, technical and proctoring requirements, and student support services. Students are provided with hands-on training and information to aid them in securing material through electronic databases, interlibrary loans, government archives, news services, and other sources throughout the duration of the course/program.
6. Faculty Support Benchmarks: Technical assistance and peer mentoring is provided in course development and during delivery of actual class.
7. Evaluation and Assessment Benchmarks: The program's educational effectiveness and teaching/learning process are assessed through an

> evaluation process that uses several methods and applies specific standards. Data on enrollment, costs, and successful/innovative uses of technology are used to evaluate program effectiveness. Intended learning outcomes are reviewed regularly to ensure clarity, utility, and appropriateness. (pp. 11-12)

Evaluation

The staff of the Electronic Learning Institute (n.d.) developed standards based on their research that encompass 96 quality process standards used in evaluating instruction and delivery. The criteria are: (a) flexibility of learner interaction and communication with faculty, peers, and course materials, (b) attention to detail in the course and its materials, (c) attention to detail in the web design, (d) detailed faculty communications to learners, (e) clear timelines and due dates, and (f) creating a sense of collaborative teamwork and a sense of community. Chickering and Gamson (1987) developed seven practices that are used for evaluation. They are:

1. Good practice encourages contacts between students and faculty.
   Instructors should provide clear guidelines for interaction with students. Includes evidence of interaction between: student-student, student-faculty and student-materials. Also shows evidence describing the types of communication to be used in class including methods to contact instructor.
2. Good practice develops reciprocity and cooperation among students
   Well-designed discussion assignments facilitate meaningful cooperation among students. Provides opportunities for students to discuss material. Engages learners in the content.
3. Good practice uses active learning techniques
   Presentations or work can be shared with other students. Encourages students to learn from others.
4. Good practice gives prompt feedback
   Instructor clearly outlines when feedback will be given for various tasks during the semester. Information feedback provides answers to a question or assignments. Acknowledgement feedback confirms that an assignment has been received and a response will be given soon.
5. Good practice emphasizes time on task
   Clear deadlines are given for projects and assignments. It also encourages regular contact with the instructor and peers.

6. Good practice communicates high expectations
   Challenging tasks, providing models and commending students provides on-going encouragement during the course.
7. Good practice respects diverse talents and ways of learning
   Encouraging students to research or study areas of interest. Allowing for multiple perspectives on topic or discussion. (pp. 4-5)

Summary of Interviews with Online Providers

The author conducted three interviews with online providers. For each interview, similar but not exact questions were used. Two of the participants were employed by private companies that contracted with schools to sell their courses. The third participant was from a community college. All three participants had similar goals when they compared the advantages of online learning. The two participants from private companies had different goals for the types of classes that were offered. Most of their decisions were based on high volume, high profit courses in regard to the types of classes that were offered. The participant from the community college had similar goals, but also offered classes that were not viewed as being high volume and high profit. The participant from the community college did not offer as much flexibility with start times as the other two participants. Finally, the structure and design of the courses appeared to be more flexible in the community college system. Quality and student flexibility were themes that each of the participants emphasized about their particular class offerings. Actual interview questions and responses are provided in Appendix A.

Chapter Summary

Online learning is becoming more prevalent as a delivery format for many educational institutions. Possibilities for classes or complete degrees continue to grow as

institutional administrators become more familiar and comfortable with distance learning. There are different methods, definitions, and combinations of remote learning that use a variety of technologies and methods.

There are definite attitudes, perceptions, benefits, and pitfalls that are associated with the growing popularity of online or cyber learning. Students, instructors, and administrators need to fully understand the differences between online education and the traditional classroom. Teaching strategies, theories, and goals still remain the same, but the conversion of curriculum, cost, and quality control will prove to be the major concerns with which all institutions considering online education must address. With proper planning, realistic expectations, and an exploration of all options, online education is a goal that can be reached by institutions wanting to enter into the online educational arena.

In Chapter 2, this author provided insight into many of the questions school administrators need to be aware of when they venture into online education. In Chapter 3, the method used to develop a presentation for online instructors is presented.

Chapter 3

METHOD

The purpose of this project was to develop a presentation that is focused on teaching and the use of the Internet. A power point presentation was developed to cover the following topic areas: (a) fundamental principles of teaching and learning, (b) definitions of distance education, (c) perceptions and benefits of online education, (d) the importance of research and assessment, (e) moving courses online, and (f) summary of interviews with three online providers.

Target Audience

The group of individuals who would be interested in attending this presentation would include any instructor who is thinking of teaching online classes as well as administrators who are considering online education as a new medium to offer in their specific institution. The information provided in this presentation would assist the members of either group to plan and provide online instruction.

Goals

There were two main purposes to the project. The first was to present fundamental teaching principles and how the medium does not change these. The second was to present perceptions of online education, current research occurring in the area of online education, the process of moving courses to an online medium so that educators

can be better informed of both the benefits and deficiencies, and finally, to provide participants a summary of three interviews with online providers.

Procedures

The author designed a power point presentation for the faculty of the Computer Information Systems department (CIS). Handouts will be provided to each attendee for the purpose of taking notes and to have a copy of the material covered. The presentation will take place in a standard classroom that has a projector available for the presenter. The presenter will allow for questions to be asked during the presentation. Following the presentation, attendees will be allowed to ask questions or to start conversation about the material covered during the presentation.

Chapter Summary

The demand for information is becoming greater, and the *half-life* of knowledge is becoming shorter. Technology is rapidly changing and becoming less costly and easier to use. Administrators and faculty are faced with economic changes, not only because of state budget shortfalls, but because for profit institutions are playing a larger role in the educational industry. These changes are affecting decisions being made at every higher institute of learning. Online education is one solution that seems feasible for schools. It is anticipated that the participants will be better informed about online instruction and more aware of the logistics of online teaching and learning after they attend the presentation. In Chapter 4, the author provides the power point presentation as well as key instructional points that the author feels are important.

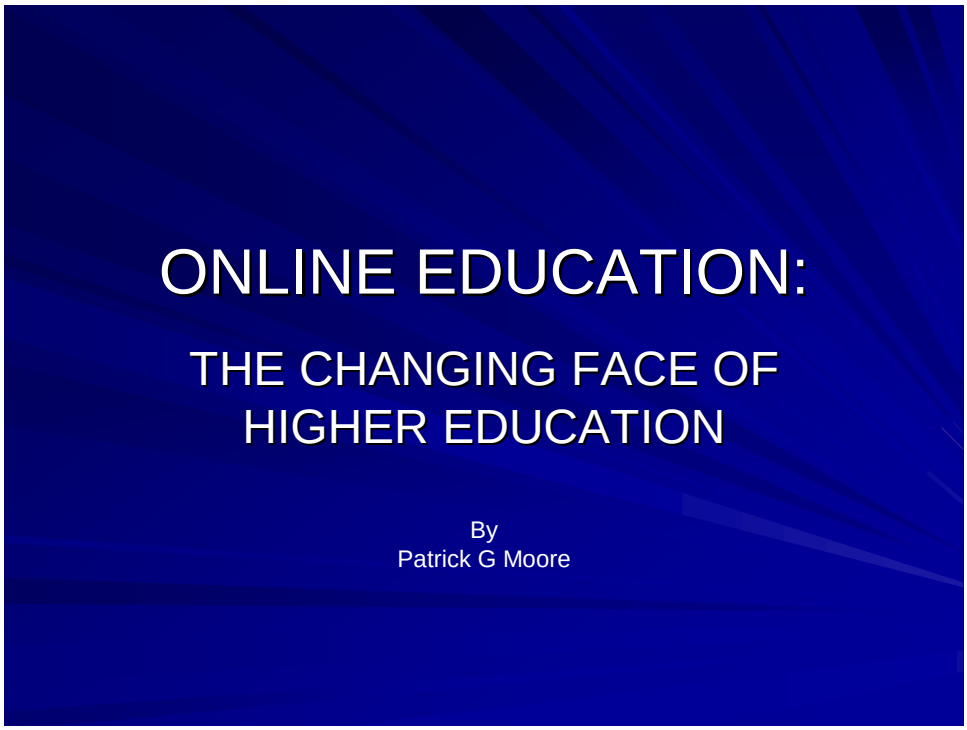
Chapter 4

RESULTS

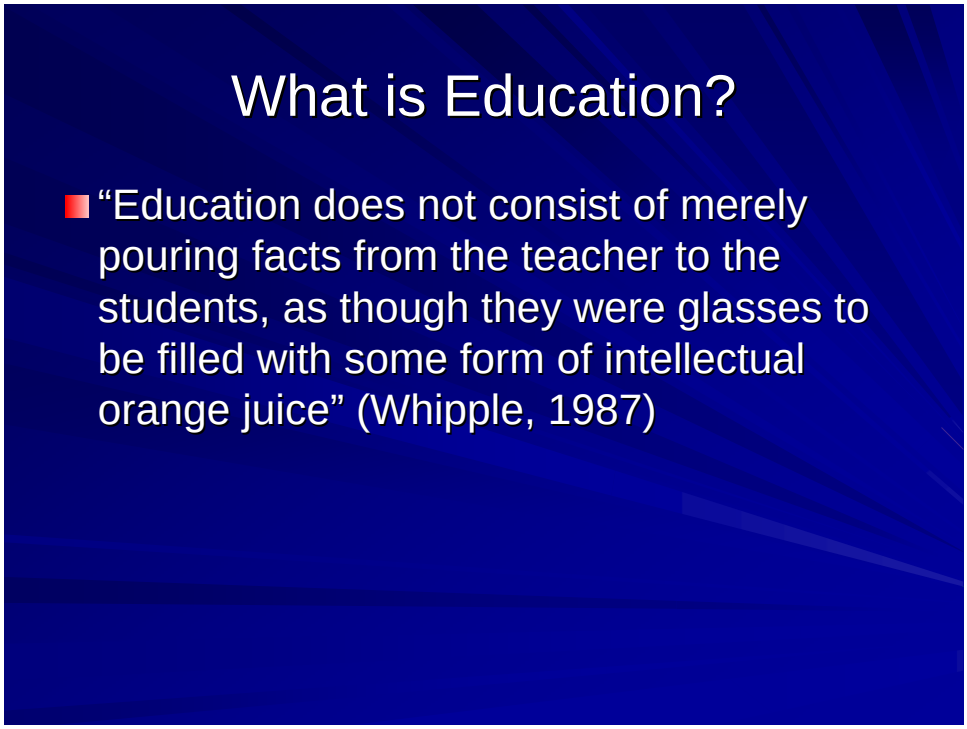
Introduction

The increased use of online education as an instructional delivery model prompted the author to investigate online education and construct a power point presentation to train fellow coworkers. The content covers: (a) fundamental principles of teaching and learning, (b) definitions of distance education, (c) perceptions and benefits of online education, (d) the importance of research and assessment, and (e) moving courses online. The author has also provided three interviews with online providers, as described in Chapter 2, with the complete interviews included in Appendix A. This author is hopeful that participants who are exposed to this presentation will have a better understanding of the logistics associated with online education.

PowerPoint Presentation

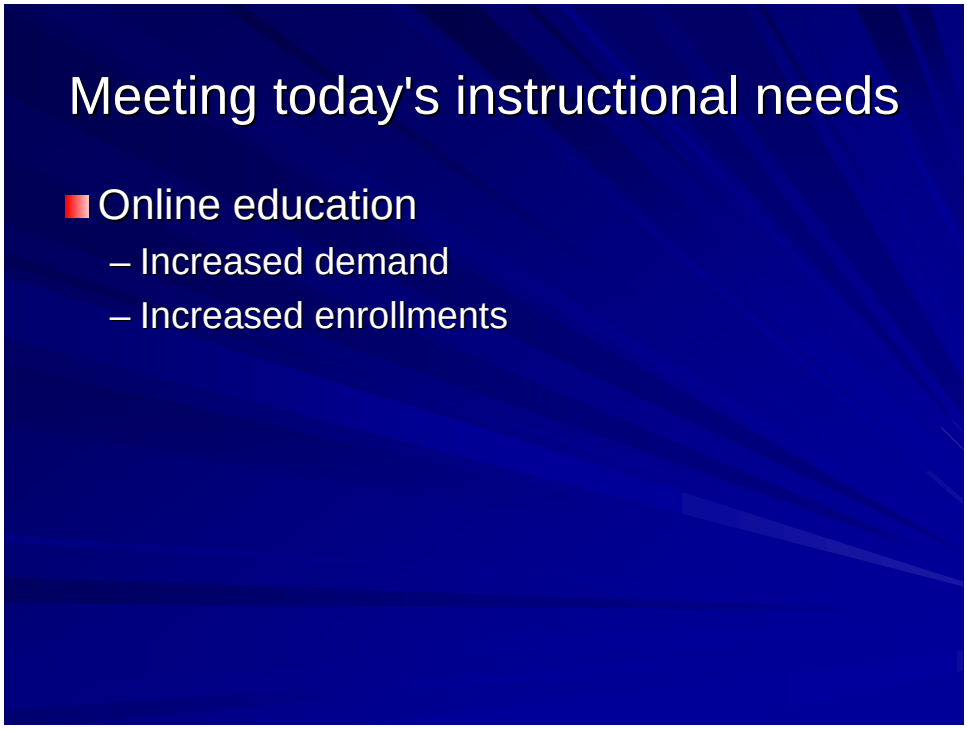


Online education is quickly becoming a standard instructional delivery model at the higher education level. The public debate over online education and the merits of this delivery method continue to be a topic of priority for many educational institutions. This presentation provides information that will assist in understanding the complexity of education and how online education is changing the face of higher education.

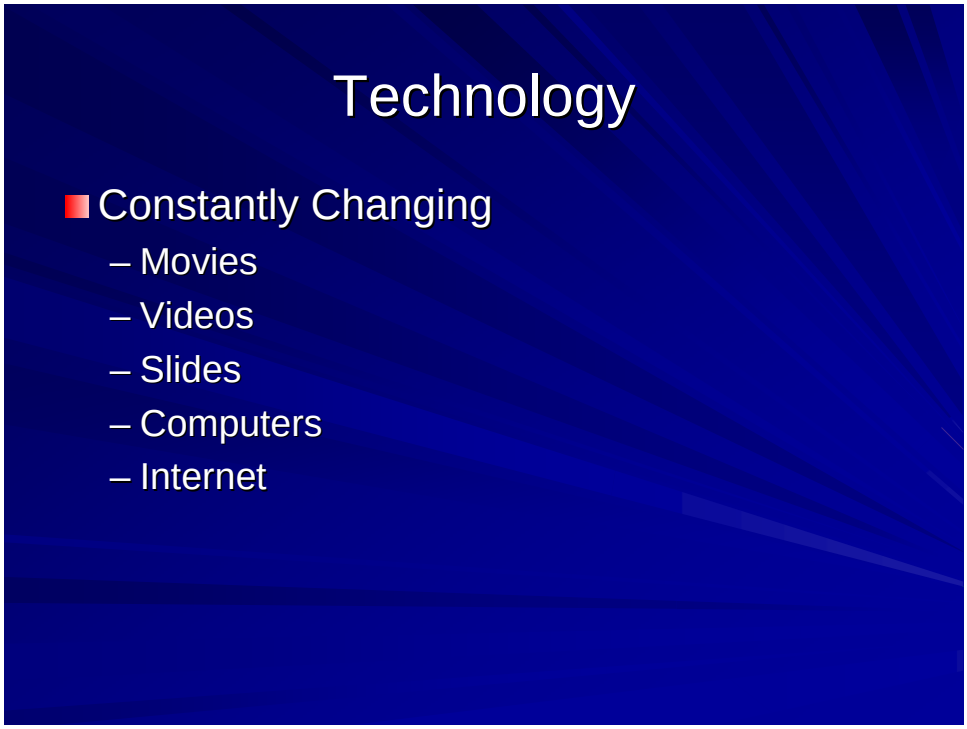


Education has always been a topic of importance in every society. The process of learning starts with learning a base set of skills. These basic skills allow a student to interact at a low level and also give the student the ability to discover new information that builds on prior knowledge. Education is a continual process that involves a student's interaction with others, the community, and the world. As society moves from an industrial economy to a knowledge based economy, the demand for information will continue to increase.

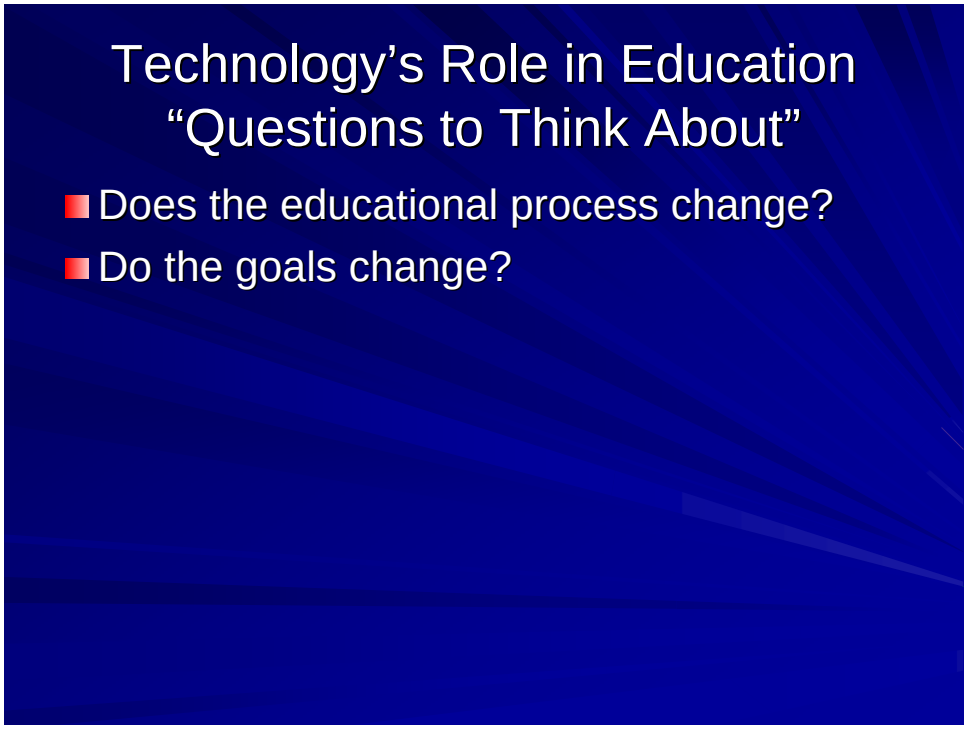
As with any type of teaching or learning, there exists a set of tools that can provide assistance with the educational process. Technology is one such tool that assists with the educational process. As technology changes, the educational goals remain the same, but the different tools available can change the actual process.



The demand for education is increasing. People have to find ways to include education into their busy schedules. Technology is becoming an important tool in meeting those demands by providing education while removing some of the time and space limitations associated with traditional face-to-face classes. Online education is a method that many universities and colleges are using to respond to the changing characteristics of their students.

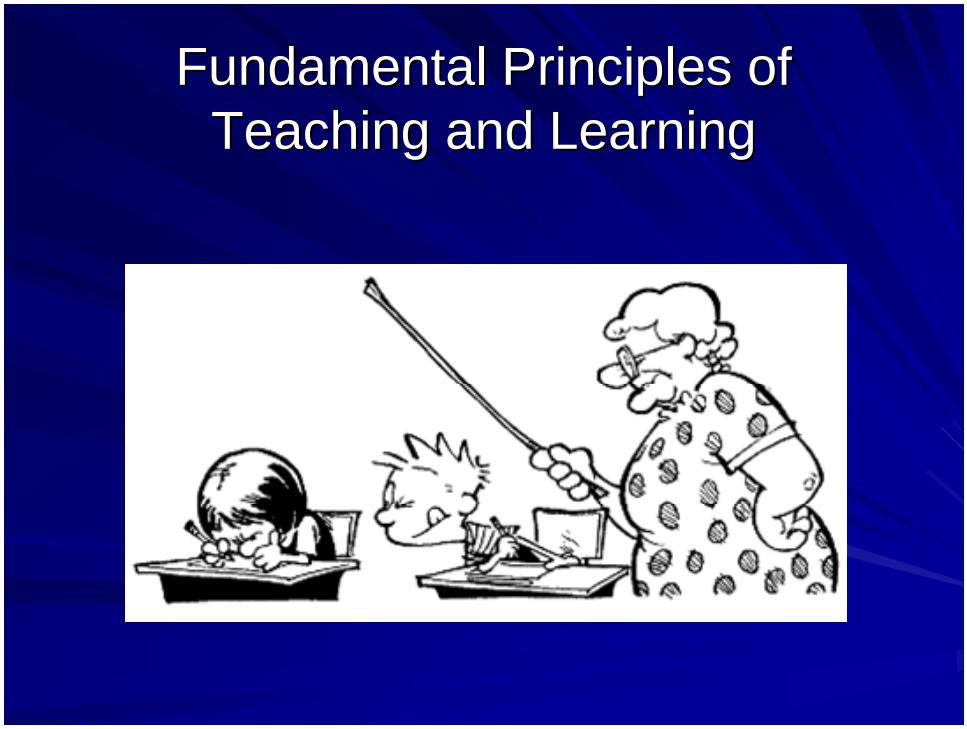


Early technology included many of the technologies listed above. Most of these are still used today in face-to-face classes. The most prominent tools are computers and the Internet.

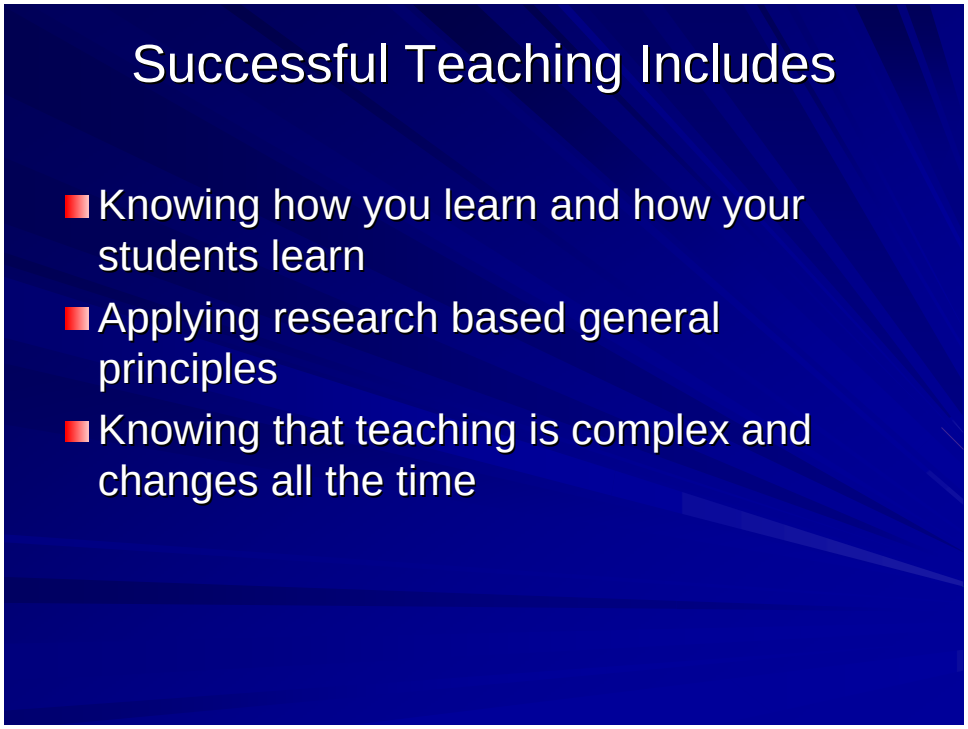


Instruct participants to keep these two questions in mind for discussion after the section on the "Fundamental Principles of Teaching and Learning."

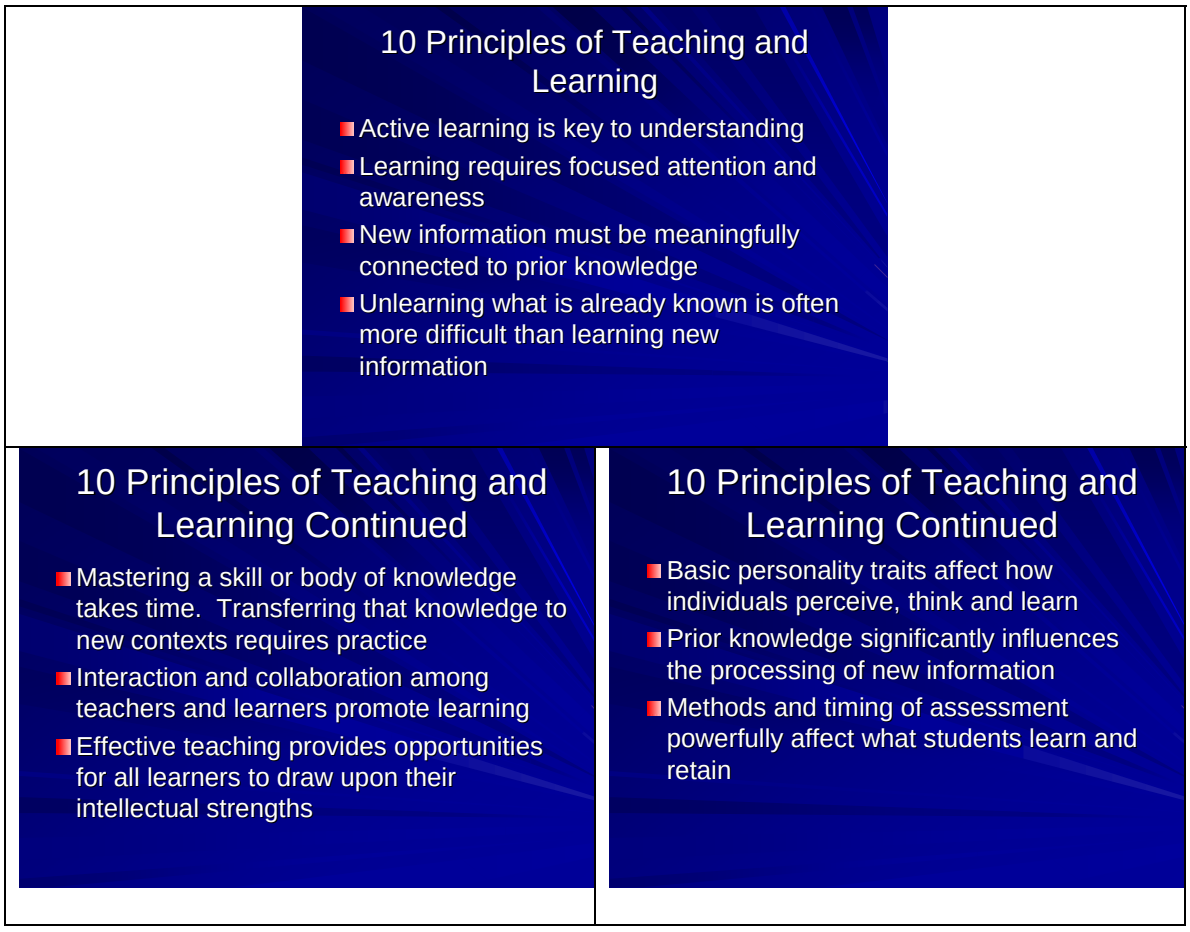
Move to the next slide and use as an introduction to the next section.



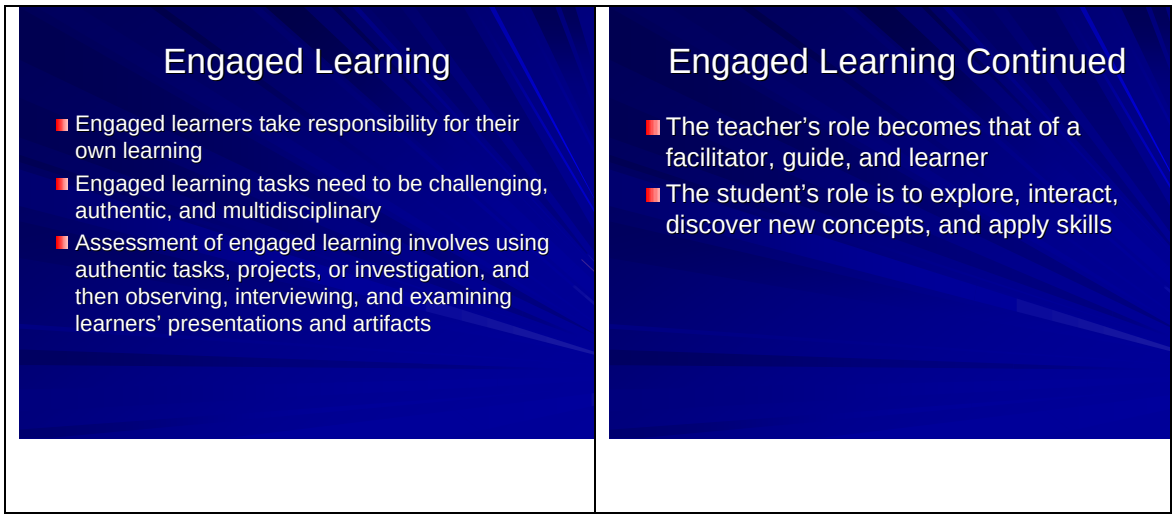
Proceed through this next section introducing “Successful Teaching” and “Ten Principles of Teaching and Learning.”



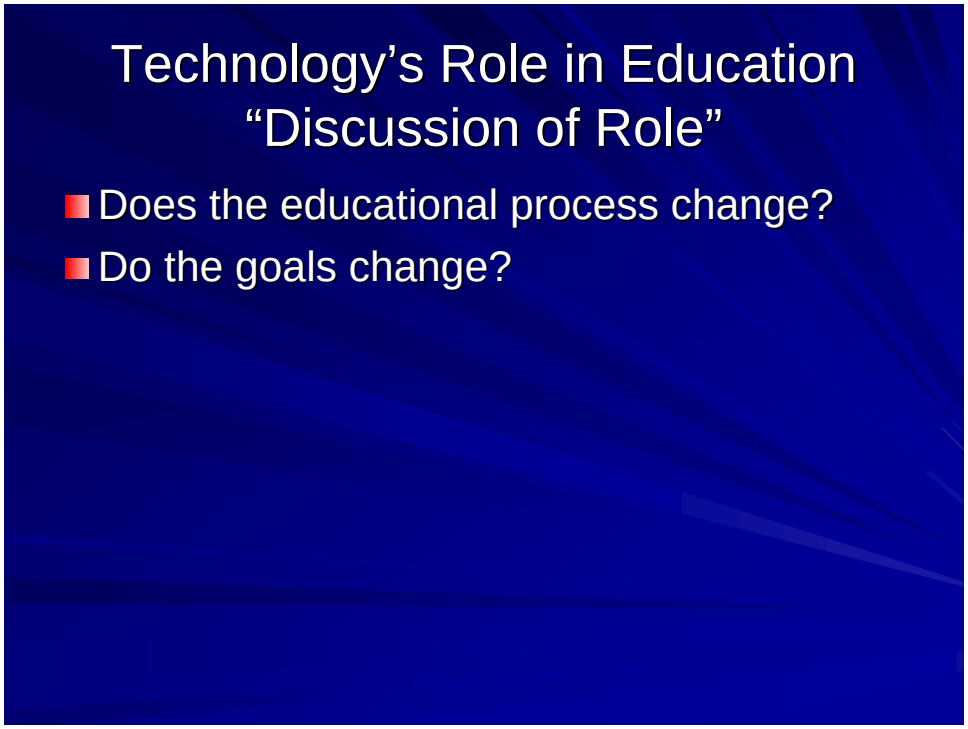
Discuss how each one of the bullets is associated with successful teaching. In addition, write down other ideas that could be included.



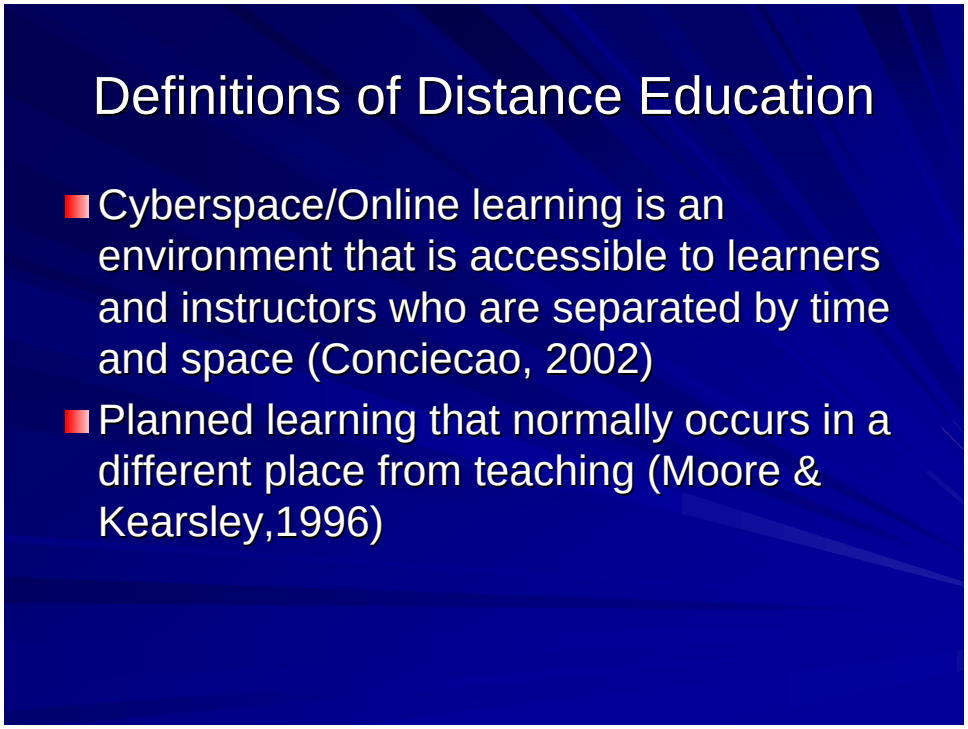
Discuss how each one of the principles is associated with successful teaching and learning. In addition, write down other ideas that could be included.



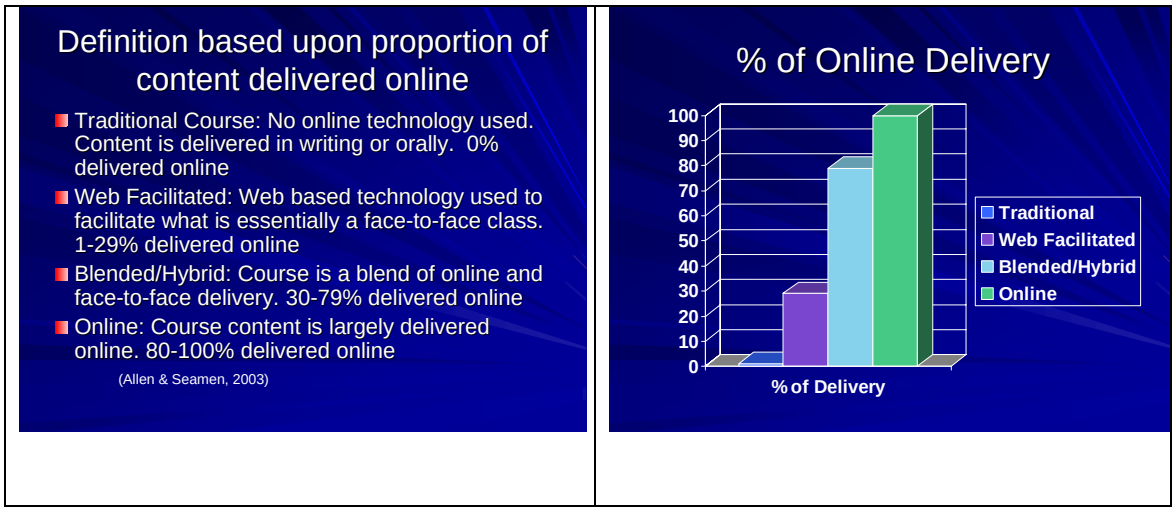
Discuss how each one of the statements is associated with engaged learning. Invite additional ideas from participants.



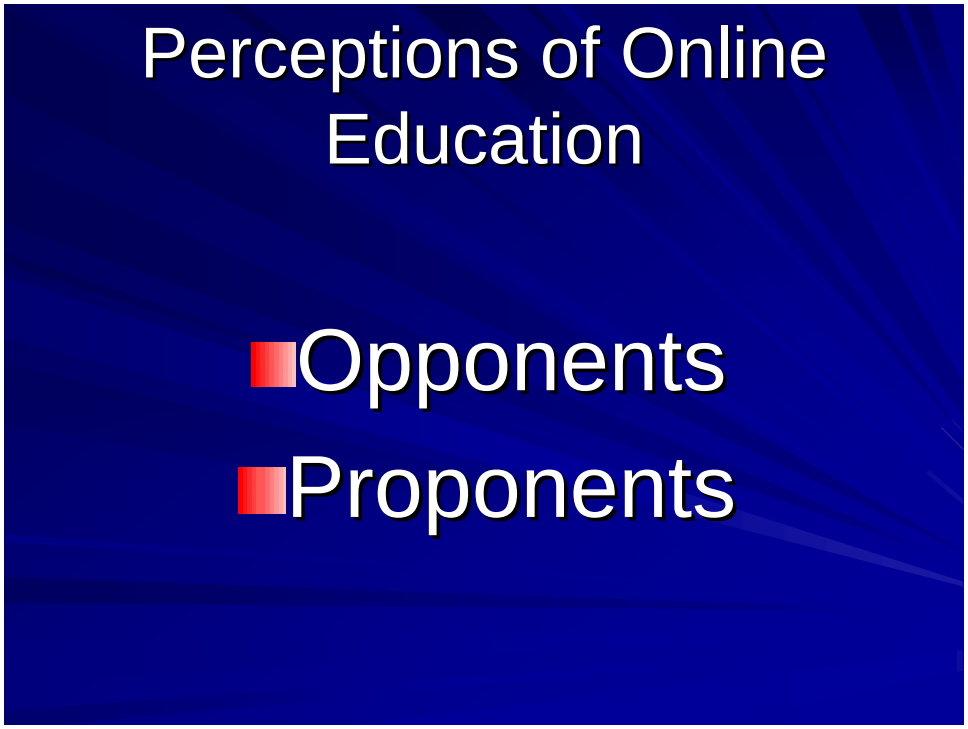
Stress the point that the educational process and goals remain the same even when the media changes. The design of the course, the types of learners, and the facilitator are the important aspects of the education process, not the media.



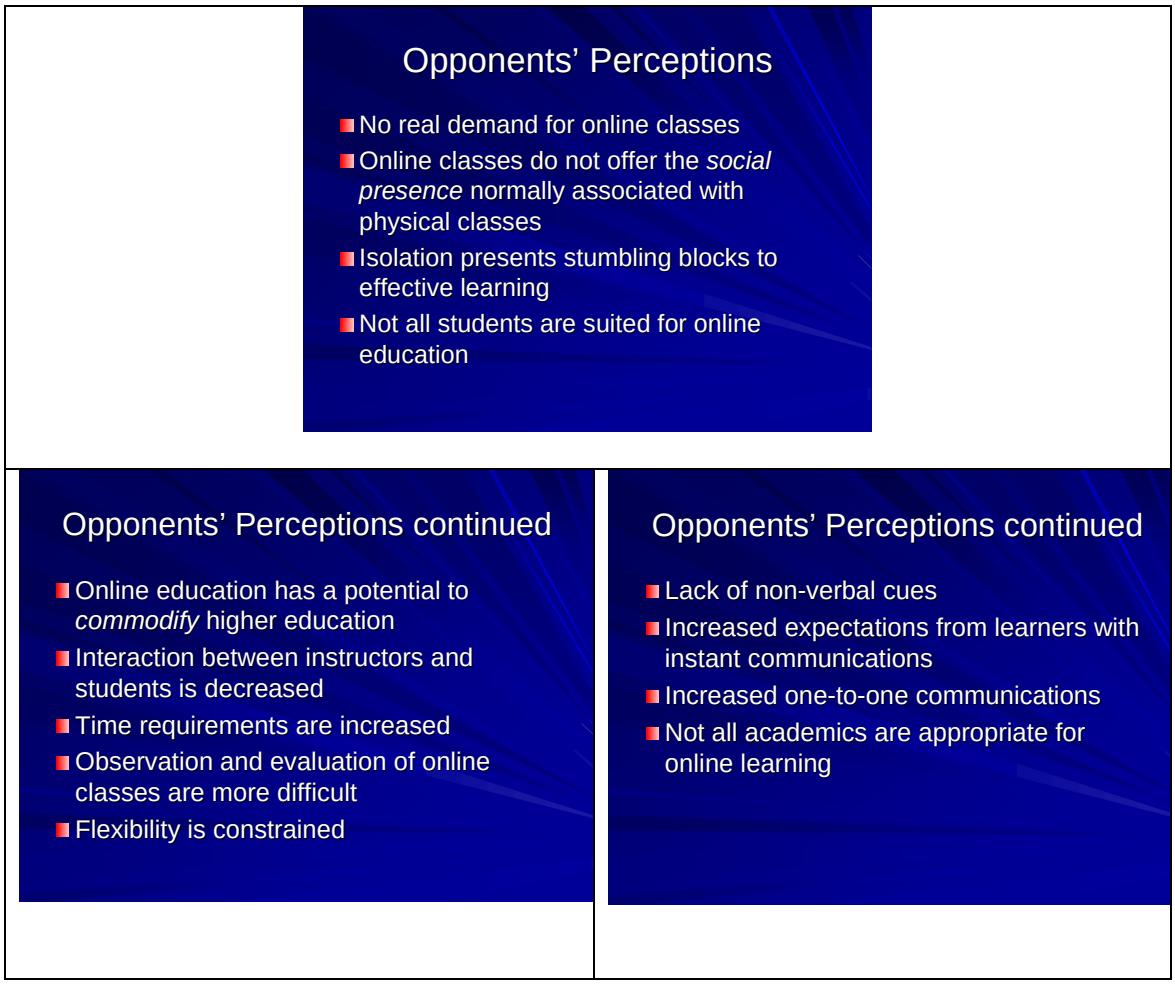
Discuss the definitions and be sure to stress that these definitions are from the viewpoint of the two authors who are being cited. Point out that these definitions are not perfect, but they do embody the essence of online learning.



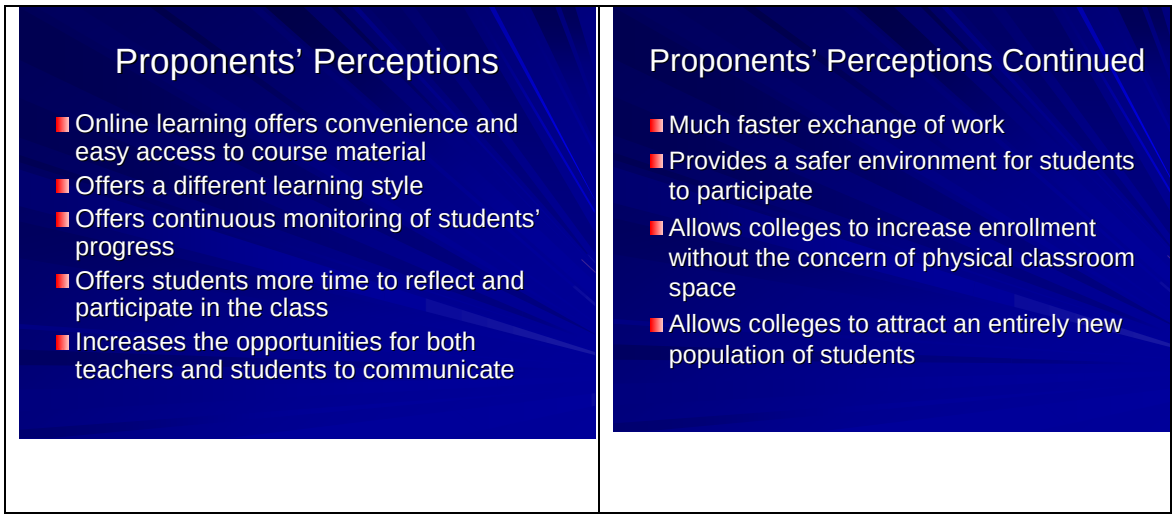
Use both of these slides to present a different way to define online education. Again, stress that these are only to assist in defining online education.



As with any type of education, there will always be opponents and proponents. The important point is to make sure that both sides are understood so that the educational process can be improved. Technology will continue to change. Facilitators of the learning process need to be able to use technology when it lends itself to the improvement of that process. Improvement takes constant refinement. Nothing is ever perfect.



Discuss each of the perceptions and write down additional ideas that participants might have.



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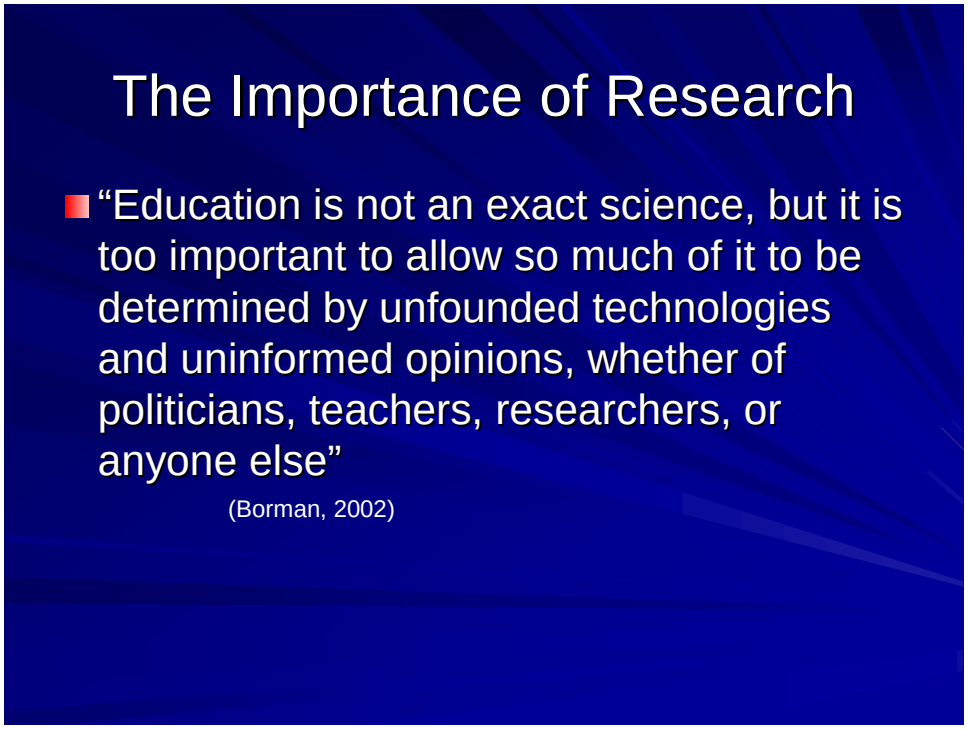
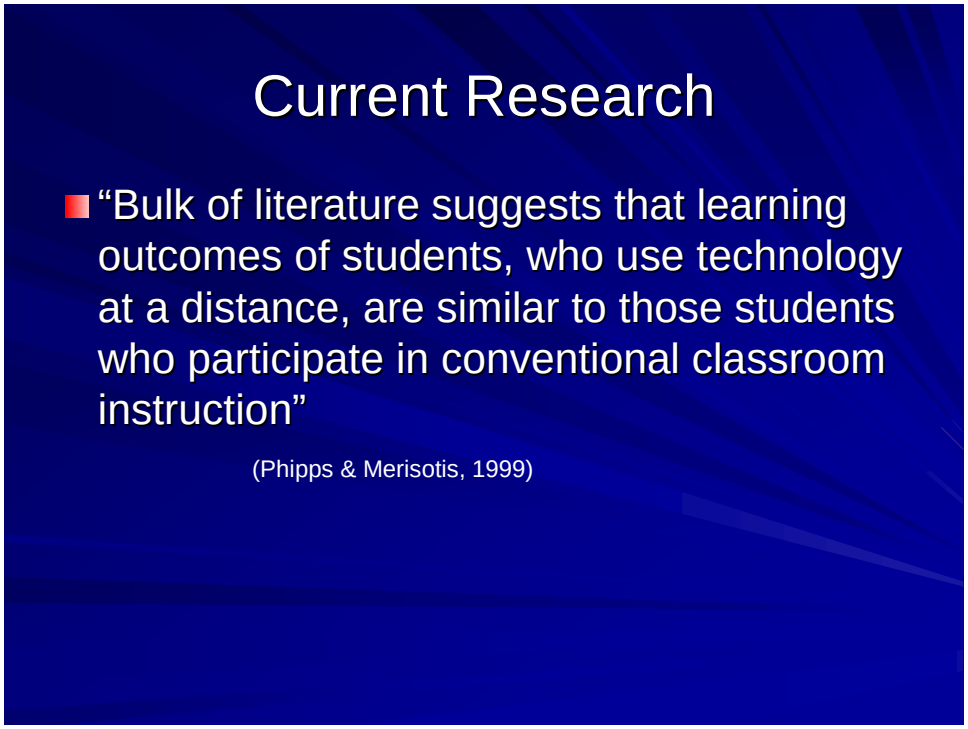
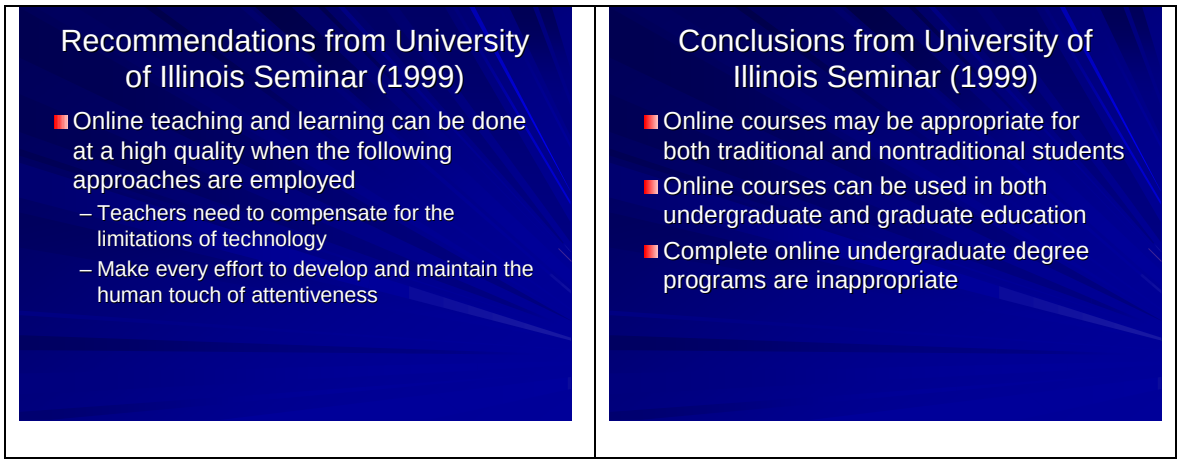


The research and development of the best quality educational interventions to promote the healthy cognitive development of students is every bit as important as the promotion of the best medical procedures to improve people's general health.

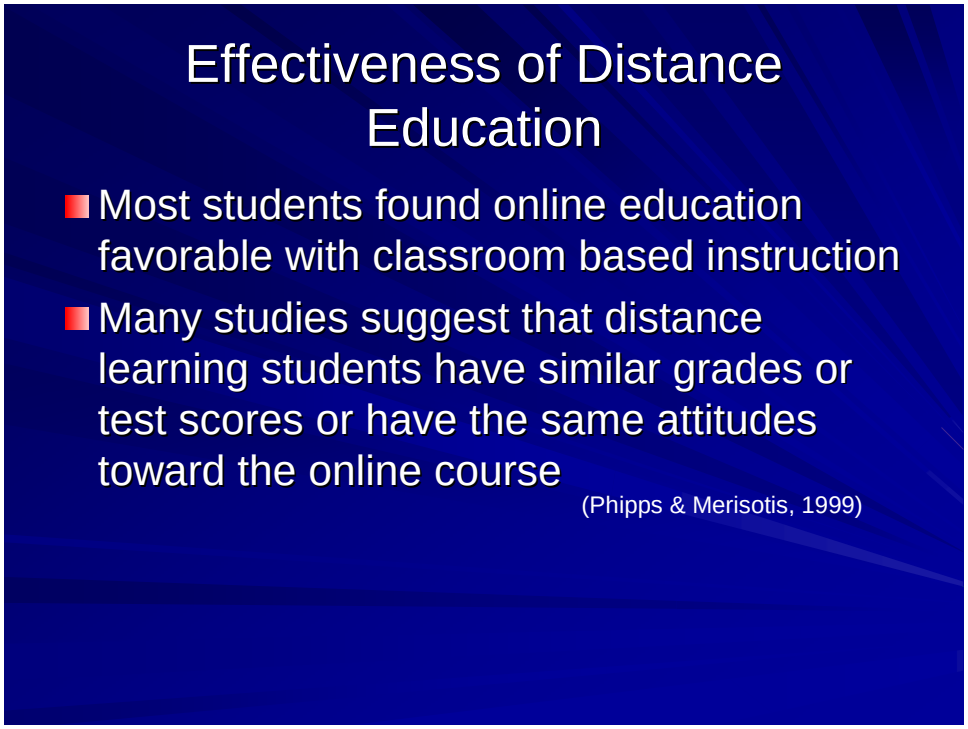
However, the proof or disproof of hypotheses is not the only reason the research findings are valued (Flinders, 2003). From an educational perspective, research is about learning to see and to hear. It is about the elucidation of the qualities and meanings of human experience, not all of which can be put into operation and then *tested* in the form of specific hypotheses. For this reason, research is like many other *educating* professions, in that it does not follow a monolithic aim or a single set of practices. It cannot be expected that all teaching will conform to the same model, for example, nor that all students will learn in exactly the same way.



Current research suggests that learning outcomes of students participating in online education are similar to students who are participating in conventional classroom instruction.



Discuss each recommendation and conclusion. Make sure to stress the importance of the human touch. Online instructors need to act both as facilitators and guides during the learning process. Point out that students have different learning styles. Also, make a point to stress that students need to be flexible and be able to adapt to different learning environments. Adaptation is a key factor for being successful in life.



Discuss teach finding. Again, remember to stress that not all students learn in the same way and that different environments are better suited for different students. Point out that there will be just as many students who did not enjoy a class, for a number of different reasons, as there are those who did enjoy the class. There are many factors that contribute to the feelings that a student develops during a class. It really is not an online versus a face-to-face dilemma. As in all education, it is the design of the course, the learners themselves, and the approach the facilitator takes that makes the difference.

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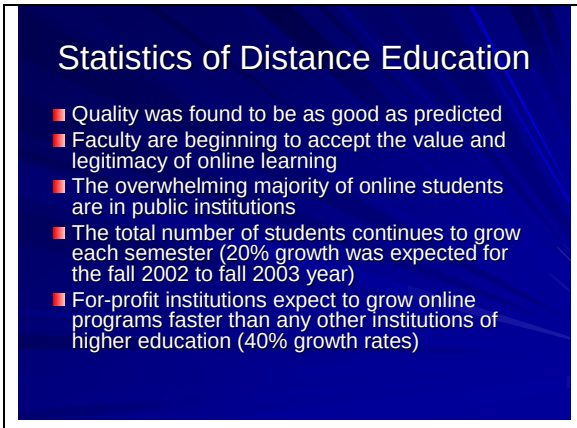
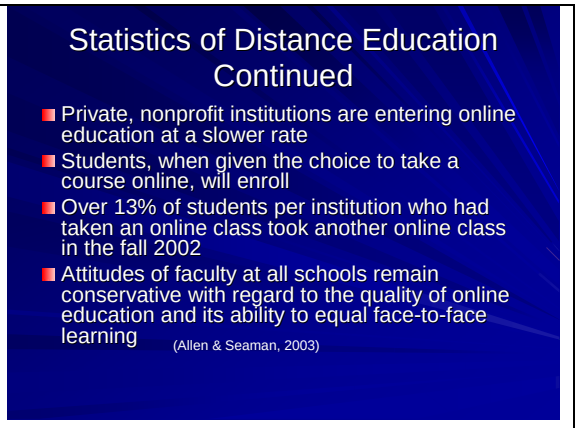
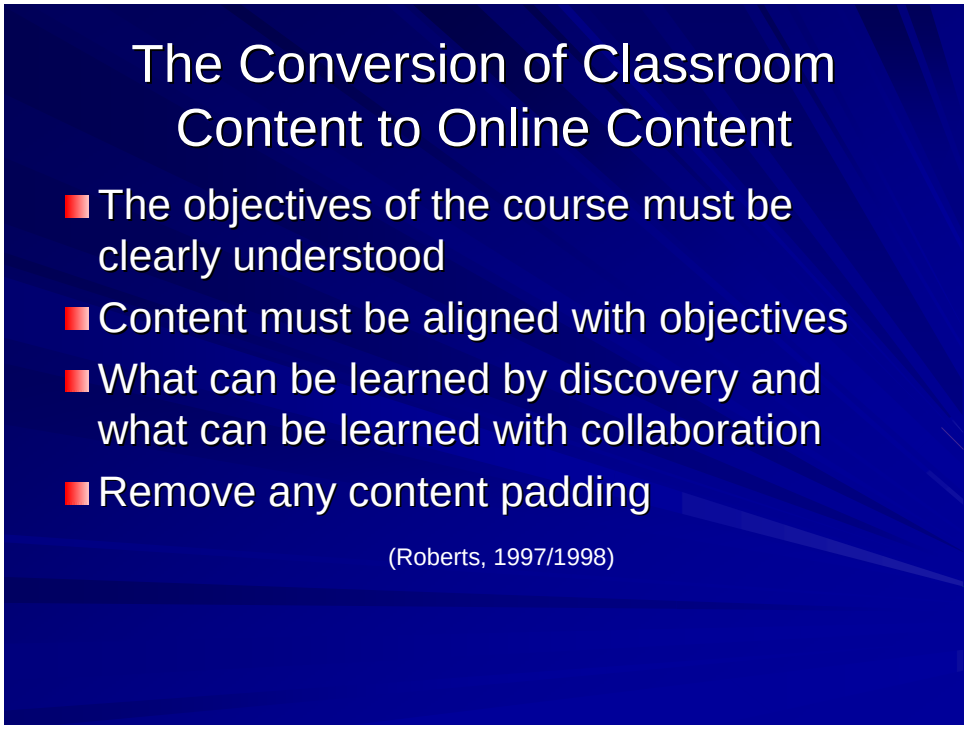
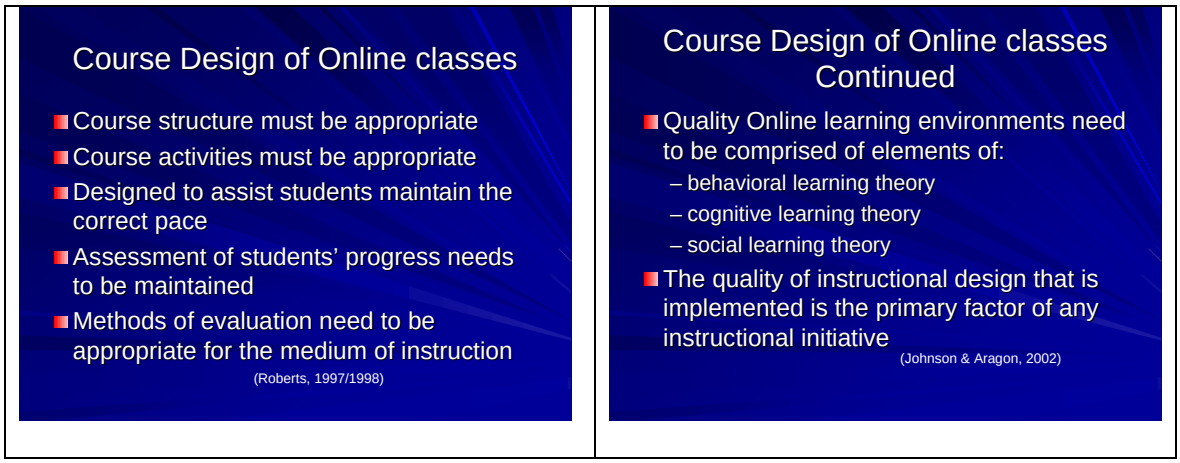




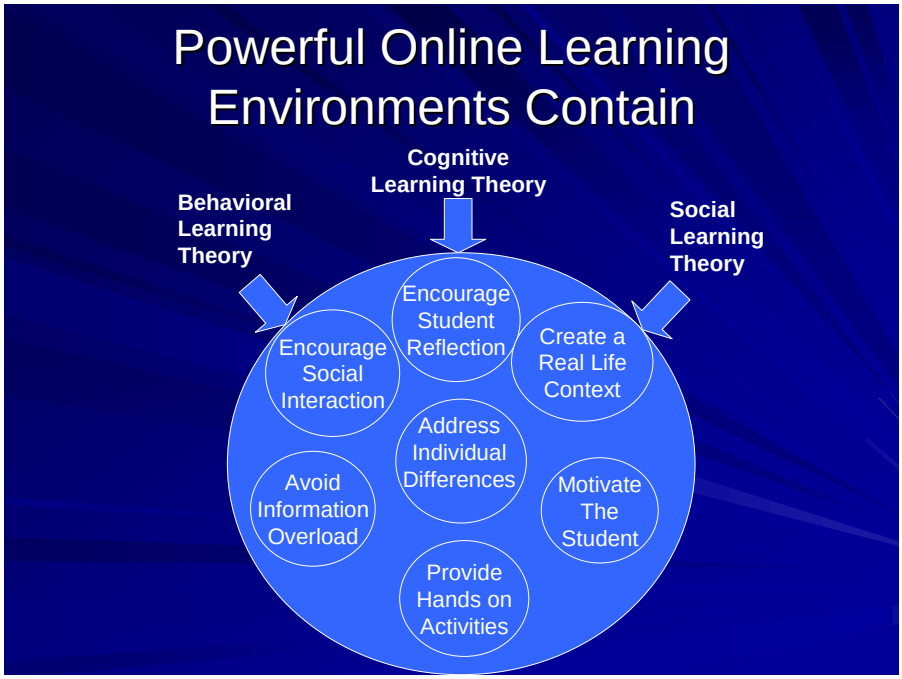
Discuss each findings. Make sure that participants understand the growth and demand for online education.



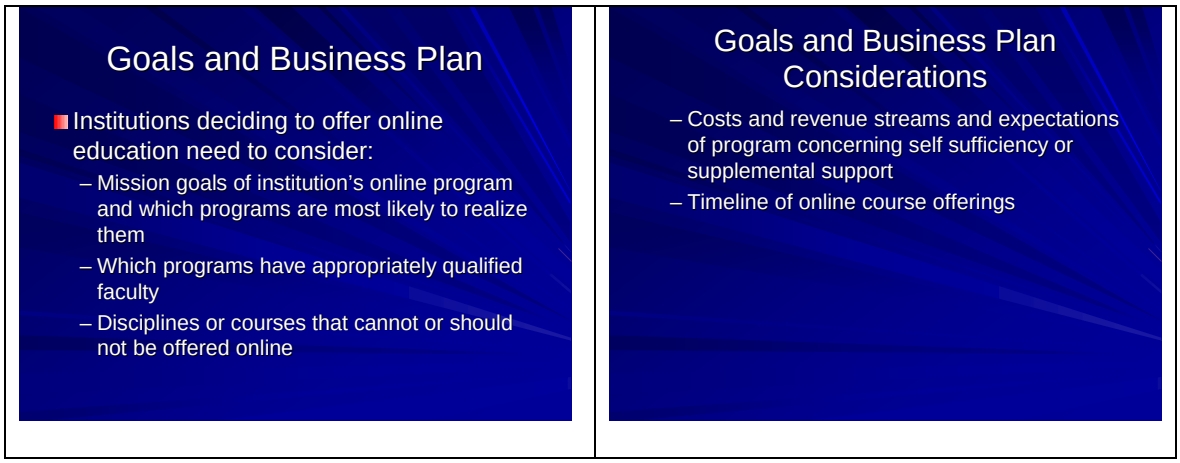
The objectives of the course must be clearly understood. The current content must be aligned with the objectives. Although the content may undergo notable change, the objectives should not be altered. Determine what can be learned by discovery or peer interaction rather than direct instruction. Remove content that does not align with the objectives. As students take increased control of the learning process, there is little need for content padding.



Imagine the instructor had a fully equipped multimedia classroom with a direct connection to the World Wide Web and no time constraints; what would be done differently from what is done in the classroom now? Then, based upon answers to the above questions, a course structure, activities appropriate for the environment, activities that provide direct instruction for those aspects of the course, procedures to help students pace and assess their progress, and methods of evaluation that are appropriate to the medium would all be designed. Instructional designers must examine their traditional perspectives and adopt a new philosophy of teaching and learning that is appropriate for online instruction. This does not imply that traditional theories such as behaviorism should be tossed aside in favor of the more contemporary social constructionist theories.



Quality online learning environments should be comprised of elements of behavioral learning theory, cognitive learning theory, and social learning theory. The primary factor in any instructional initiative, regardless of format or venue, is the quality of the instructional design that is ultimately implemented. Based on the lack of evidence that the use of technology markedly influences the learning process, scholars in the field of instructional technology now conclude that the technology used in an online program is not as important as other instructional factors, such as pedagogy and course design. Powerful online learning environments should contain a combination of the following principles: "(a) Address individual differences, (b) Motivate the student, (c) Avoid information overload, (d) Create a real life context, (e) Encourage social interaction, (f) Provide hands-on activities, (g) Encourage student reflection" (Johnson & Aragon, 2002 p. 4).

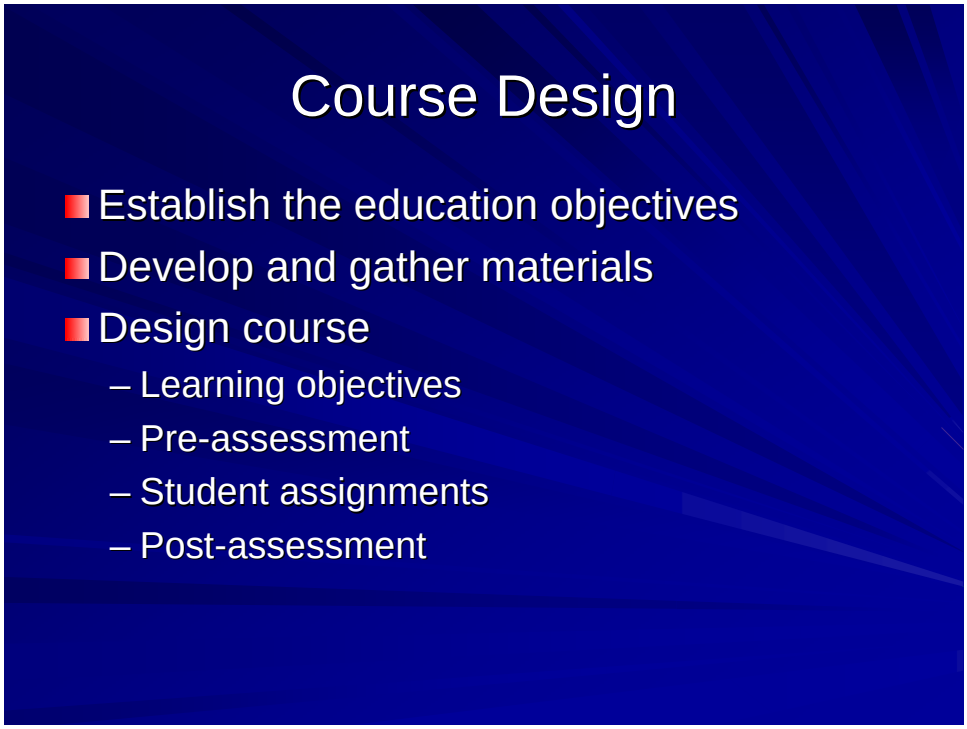


When institutional administrators decide to offer online courses and programs as part of their core mission, they need to consider the following:

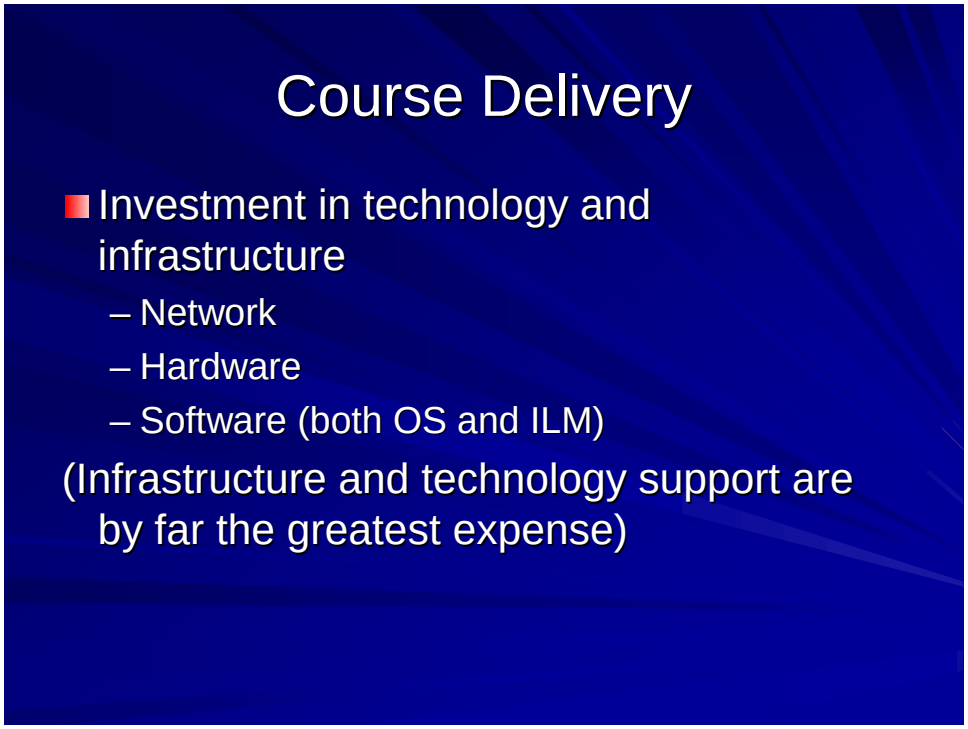
1. What are the mission goals of the institution and which online programs are most likely to realize them?
2. Which programs have appropriately qualified faculty who are enthusiastic about this initiative?
3. Are there any disciplines or courses that cannot or should not be offered online? (Sjogren & Fay, 2002, p. 2)

Institutions need to consider costs and revenue and whether the program is expected to pay for itself or be supplemented. Other considerations could include a timeline for online courses to become part of the curriculum. Should classes be integrated gradually, or is a rapid time frame an important goal as well?

The costs for the development of online programs fall into four categories: (a) course design, (b) course delivery, (c) faculty development, and (d) student support.



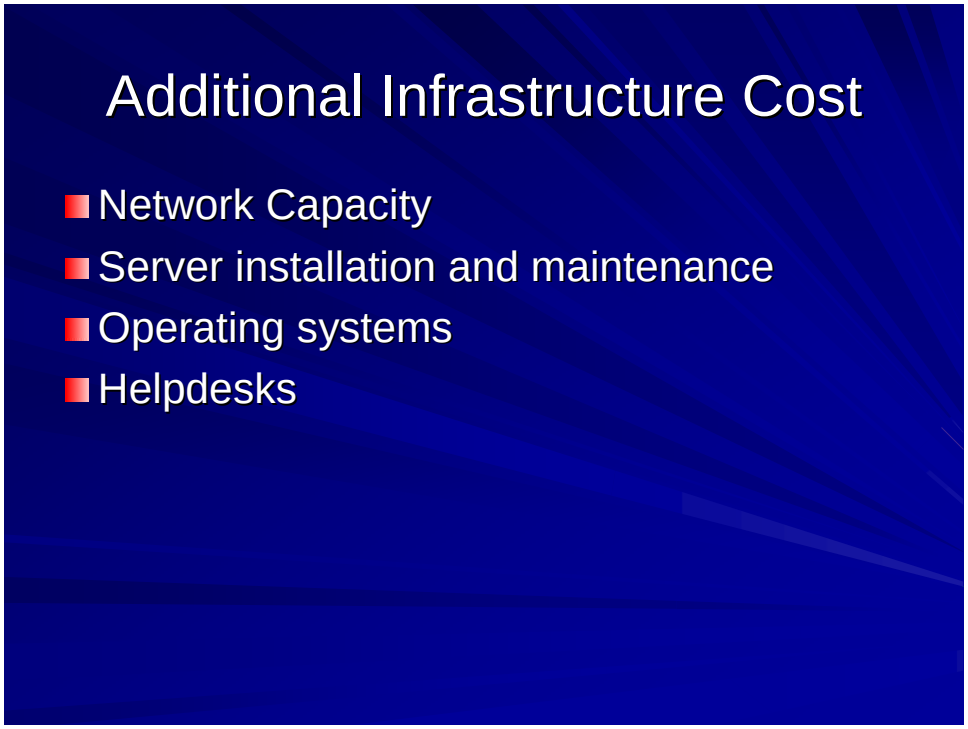
Course design includes the establishment of the educational objectives, development and gathering of materials, and assembling them into a plan that meets the educational objectives. Learning objectives, preassessment, student assignments, and post-assessment play a major role in the educational objectives.



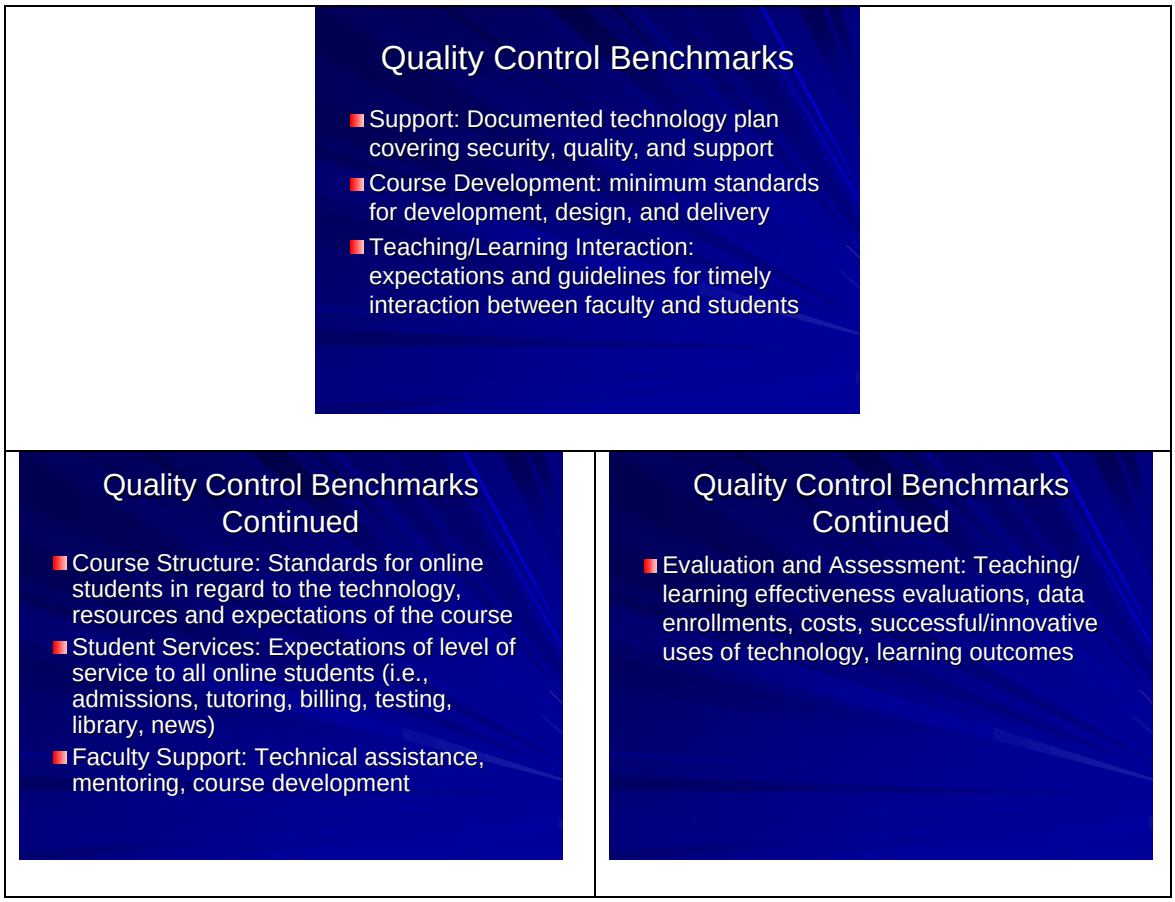
Course delivery involves the investment in technology and infrastructure that allows teachers to control the content of, and student access to, the material. Technology paths include some type of integrated learning management tool (ILM) or course management system (CMS) that can be homegrown, self-designed, purchased from a software development firm such as Blackboard or Web CT, or provided as part of the cost of an online class provided from a third party vendor (Abromitis, 2002; Sjogren & Fay, 2002).

According to Coulter (2001), faculty development is necessary in preparing faculty to teach online classes. Faculty mentors who are seasoned online instructors should be available. If faculty members have someone to guide them, they can easily learn the techniques necessary to deliver an exciting, interactive online course.

Student support includes the commitment to provide the same level of service that is available to on-campus students in addition to the provision of technical support for the additional technology requirements associated with online education. Such services include access to library materials, advising, registration, financial aid, career counseling, and so forth (Sjogren & Fay, 2002).

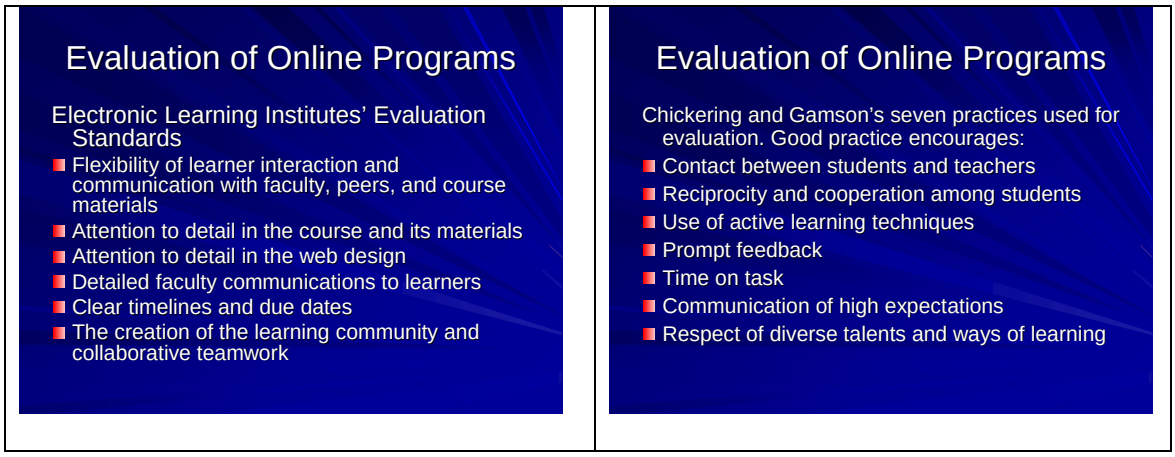


Additional costs include infrastructure and technical support. These costs are by far the greatest expense and include such factors as: (a) network capacity, (b) server installation and maintenance, (c) operating systems, and (d) helpdesks. All of these costs may involve major ongoing investments.

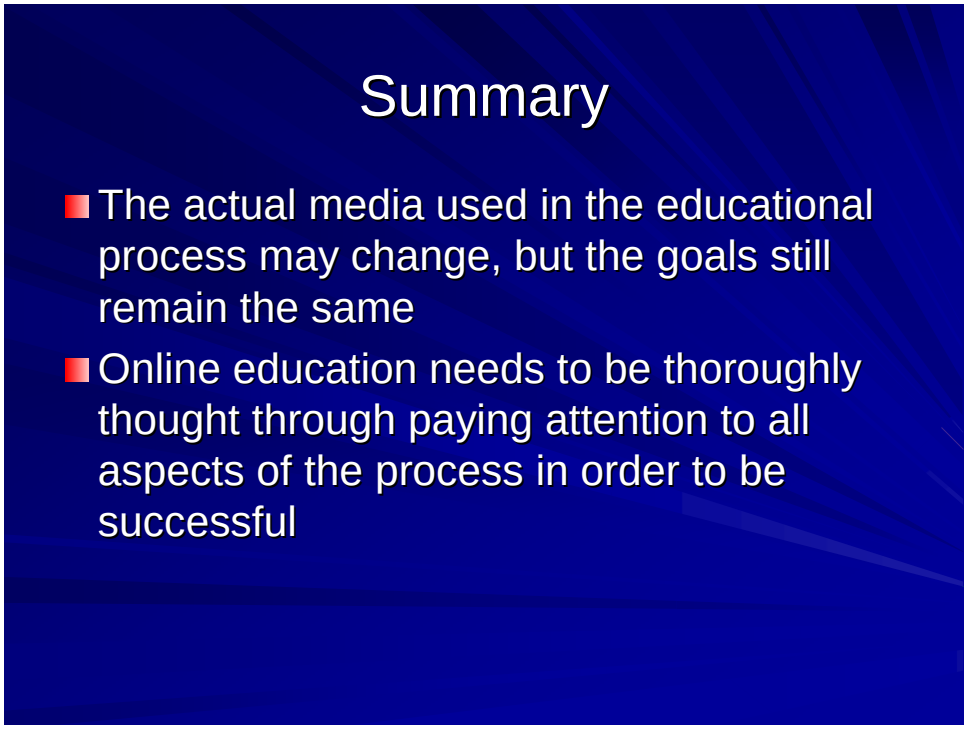


As with any instruction, quality is always important. The above list of benchmarks resulted from a study prepared by The Institute for Higher Education Policy.

Discuss how each one of the benchmarks is associated with quality control. In addition, write down other ideas that could be included.



Evaluation of any learning environment is critical in the continuing process of development. The next two slides present different techniques to evaluate online programs. Review each slide and then compare them, taking into consideration the similarities and differences.



Online learning is becoming more prevalent as a delivery format for many educational institutions. Possibilities for classes or complete degrees continue to grow as institutional administrators become more familiar and comfortable with distance learning. There are different methods, definitions, and combinations of remote learning that use a variety of technologies and methods.

There are definite attitudes, perceptions, benefits, and pitfalls associated with the growing popularity of online or cyber learning. Students, instructors, and administrators need to fully understand the differences between online education and the traditional classroom. Teaching strategies, theories, and goals remain the same, but the conversion of curriculum, cost, and quality control will prove to be the major concerns which all institutions considering online education must address. With proper planning, realistic

expectations, and an exploration of all options, online education is a goal that can be reached by institutions desiring to enter the online educational arena.

Chapter Summary

This information is designed for presentation to participants in the format of an inservice. The intent is to inform participants of the associated logistics that accompany online education. In addition, participants who have never experienced online teaching should gain a better understanding of the preparation that is needed when converting a face-to-face class to an online class. In Chapter 5, the author discusses the contributions of this project, limitations, and recommendations for further study.

Chapter 5

DISCUSSION

Technology continues to bring fast paced change to education. The pace at which higher education is rushing to implement online learning is increasing each year. Many educators have been reluctant to accept online education, but with more research showing positive results, educators and administrators are continuing to implement online educational programs.

Contributions of Project

Humans tend to react to change with hesitation. Online learning has presented a major change in the educational process. It is this author's intent that the power point presentation created for this research project will assist participants in understanding the similarities and differences between face-to-face education and online learning. With a better understanding of current perceptions, current research, the conversion of classroom content to online content, and the logistics of online education, participants will be better informed of both the benefits and deficiencies. Information is the key to making good choices and decisions.

Limitations

The limitation of this project was the lack of conclusive evidence pointing to the best way to teach online classes. Education itself is limited by this same problem. Online education is only in an infancy stage when compared to traditional face to face

instructional methods. More research and evaluation are needed in order to refine and develop better methods of instruction. Other limitations included the lack of time and equipment that the author was able to use to actually demonstrate the different types of technology used in online learning (i.e., content management systems, hardware, and software). Finally, this presentation was designed to be informative and not designed to provide solutions. With the substantial amount of information available, it was difficult to completely include every aspect of online learning.

Recommendations for Further Study

The emerging importance of online learning merits continued research into the learning process. It is imperative that educators and scientists continue to investigate the processes that occur when learning. How does one learn and how does the brain store and retrieve information? These questions may never be answered, but with new technologies, such as Magnetic Resonance Imaging (MRI), Functional MRI (fMRI), and Positron Emission Topography (PET) scans, researchers and educators have new tools to gain more conclusive information about both the physiological and psychological processes that occur inside a person's brain. With the promising outlook of this new scientific technology, in combination with observational research and the use of newer technologies during instruction, the future of education shows great potential.

Chapter Summary

Online learning is increasingly becoming a standard for many educational institutions. Possibilities for classes or complete degrees continue to grow as educators

become more familiar and comfortable with distance learning. How these technologies will benefit education still remains a question for many educators, while others have seen substantial benefits already. The different methods, definitions, and technologies will continue to change and affect the way online learning is done. The final goal of education still remains the same, but the different media and methods used to reach that goal will change as new technologies become available.

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APPENDIX A

Interviews with Online Providers

Interviews with Online Providers

Company: JER

Interview with founder and president

1. Are the classes self start anytime? We offer many different types of classes with different types of starts classes. Some are instructor led and the pace is controlled by the instructor keeping the class together as a whole and others are instructor led but students are able to complete the work at their own pace. In cases where the pace is being controlled we usually have specific start dates. When the class is self paced a student is able to enroll into a class at any given time.

2. Is there a maximum time that a student has to complete the course? Self directed courses are generally a 90 day period. In career track areas we have a program that will prompt the student for his/her progress. It requires the student to write back about where that student is in the class and will then prompt him/her back whether or not he/she is on track or needs to pick up the pace. Instructors can also play an active role in the instructor led self paced classes by maintaining contact with each student about deadlines.

3. Do students have access to an expert to email questions to on self study classes? We offer different types of classes that range from yes to no. A self directed low cost class generally will not have an instructor available to whom questions can be emailed. On the other end of the spectrum a higher cost instructor led class does have an expert available to whom questions can be emailed.

4. Do your classes require books or other materials? Some of the classes do require books or materials. In such a case, the student is responsible for any books or materials. We do offer suggestions on where a student could purchase them in those cases.

5. When I first spoke with you, you mentioned that your pedagogy was different from Ed2go. How would you describe these differences? What do you think good pedagogy is? The best online learning is the type of learning where students are motivated, use the material, and apply what they have learned. The only difference is that direct face to face interaction is lacking.

6. What is your payment loan option program? Salli Mae program.

7. Do you really have 24/7 customer service and student support? In some cases we actually do but in other cases students can call in and if it is during normal business hours we can assist them. In other cases students may have to leave a message and we will get back in touch with them as soon as possible.

8. How does a student know if the class is instructor led and self-guided? The course description will provide them with all of that information.

9. I don't understand the statement "Courses are offered in a variety of mixed synchronous and asynchronous format." Is this all courses or just certain courses? Again, we offer such a wide range of classes that our catalog incorporates classes that are taught in both formats or a combination of the two formats.

10. How do I know what classes are involved with a certificate program? We publish the requirements for all certificate programs. They are just a combination of the other classes that we offer.

11. JER actually works with universities to market and sell the universities program to other people. Our goal is to keep it simple and keep the price down.

Company: ED2GO

Interview with sales manager

1. Do you have a minimum number of students that you require before a class will run? No. We will run a class with any number. We will stop offering classes if we have a continual decline in interest. We will also let all of are resellers know in advance about any decision to stop offering a class.

2. What type of course enrollments are required in order to maintain the course in your catalog? It varies. Instructors are paid on a per student pay scale. Some instructors will run classes with low enrollments and others will not.

3. In large classes, how do instructors keep up with all of the email from students? Instructors are required to have timely feedback for all of their classes. We design our classes so that most questions can be answered by other students participating in threaded discussions. We rely on the 80% 20% rule meaning that 80% of the questions can be answered by the other 20% of the students within the class. The instructor is required to keep up to date on the threaded discussions and make sure that students answering questions are giving good information. Also, most of the time the questions are similar. This rule of thumb alleviates a lot

of email responses required by the instructor and allows them to concentrate on the entire class as a whole instead of a lot of individual students.

4. Do you have some type of knowledge management system to assist with questions from students? No. Again we rely on the 80% 20% rule.

5. How do you differ from other online companies? All of our classes are designed using a standard pedagogy format that we have found to function well in the online learning environment.

6. How do you differ from schools using BlackBoard or WebCt? Both of those learning management systems were really designed for schools to take classroom material and dump it into the system so that schools could offer and manage information online. They don't offer any type of pedagogy development and assistance.

Red Rocks Community College

Interview with associate vice president of technology

1. What are the major benefits to offering online classes for the institution? Increased enrollment. Increased market. Better able to serve a wider and more diverse student population. Offering online classes keeps the college competitive with other colleges. If the college does not offer online classes, then the college will lose out on the population of students looking for online classes.

2. What are the benefits of online classes for students? Time and space advantage for students. Some students learn better at their own speed and at a time that is more convenient for them. Some students also feel more comfortable dealing directly with the instructor in a media that doesn't involve an entire class. Flexibility, students are able to work when and where they want or need to. Students have more opportunity for better collaboration if classes are constructed properly. Students are able to think about their questions and answers better using an online format. Some students actually feel and perform better with online classes than grounded classes because of the anonymity.

3. What types of classes do you feel should be offered online? Not all courses lend themselves to be taught online. The important factor is the evaluation of each class. The end results and learning outcomes need to be the same but the process of delivering the content needs to be appropriate for the delivery method. Some classes might not lend themselves to an online. Others might have to be a modified version or include multiple methods of alternative delivery. Overall, each class needs to be evaluated separately. It's easier to say what classes shouldn't be put online. Classes that involve physical participation would be

difficult. Otherwise, classes that are offered online just need to be carefully thought through and specifically designed for online delivery.

4. What are the institutions' responsibilities for the following?

   Technical support: Server support, help desk support, no ISP hookup support. Each student needs to have a minimum set of skills allowing them to function on the internet. Email, Basic OS operating functions, sending and receives attachments with email. 90-95% of all calls to a help desk are questions that pertain to the class or lack communication with the instructor. Students beginning a class usually just have login questions or getting started questions. Once a class is going questions are usually pertaining to: why hasn't the instructor contacted me? The instructor said the test would be available and it isn't up yet? I feel that the school is responsible for providing stable technology. Students taking the classes should have a technology level that allows them to participate in an online class. I don't feel that 24/7 support is necessary. Most technical problems that the college currently sees are problems relating to students starting their class (i.e. not enrolled in the correct class, wrong password).

   Supervision of exams: Supervision of exams has always been a problem. Most grounded classes don't require students to prove ID. Online classes are more susceptible to fraud but so are grounded classes. The supervision of exams is really an instructor's preference. Red Rocks does participate in a program that does have sites available to provide proctoring of exams. This issue doesn't really doesn't have anything to do with the delivery method.

   Tutoring: Tutoring can be performed in many ways. IM sessions, email, chat rooms, threaded discussions, additional reading or web sites. Red Rocks currently has online tutoring for writing. There are also publishers that offer online assistance with the adoption of their materials or books.

   Administrative support: Administrators need to set policy and guidelines that include development support, training support, tools and assistance with pedagogy. Without the support of the administration it would be difficult to provide online learning. They need to provide the finances to pay for infrastructure, software, training, and staff.

5. How should courses be developed? An institution needs to first develop a business plan. Using this plan, courses can then be evaluated and selected for course development. Once courses have been selected, the institution needs to invest in resources (hardware, software, course development, and teacher training). Courses need to be developed with a content expert along with technology support to assist with the specific method being used to allow access to the material.