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Higher education has provided students with distance learning opportunities for over 150 years. This chapter traces the evolution of distance learning and provides an overview of some of the challenges inherent in learning in an online environment.

From Correspondence to Cyberspace: Changes and Challenges in Distance Education

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After tucking her youngest son in for the night, Carole sits down with her laptop to search the Internet for documents to share with the online discussion group for her class, Introduction to Management. As she browses a PDF file on current business trends, she is reminded of her mother. After Carole and her brothers were in bed, her mother would watch the tapes she brought home from the community college, stopping the machine frequently to take notes. Carole was so proud when her mother received an associate degree in dental hygiene. Although Carole already has her associate degree in legal assisting, she is taking distance education courses in business to advance at her job. Her mother's videotapes and workbooks have been replaced by a computer that enables Carole to access vast amounts of information and work with other distance education students. Noting the changes over the years, Carole wonders, "What will distance education be like when my children are ready for college?"

The United States Distance Learning Association (n.d.) defines distance education as the "acquisition of knowledge and skills through mediated information and instruction, encompassing all technologies and other forms of learning at a distance" (n.p.). Though there are a variety of definitions of distance education, this particular one encompasses the various facets of this learning environment. And unlike the many definitions that

address only current forms of distance learning (for example those associated with electronic technology), this definition encompasses distance education's long history.

This chapter presents a brief history of distance education, from correspondence courses to today's lessons in cyberspace. In addition, the chapter examines the characteristics of community colleges that foster the growth of distance learning and provides an overview of the expectations and challenges as distance education moves into the mainstream of postsecondary education.

A Brief History of Distance Education

Until the twentieth century, print was the only medium available for distance education. Correspondence study, a method of learning via postal mail, was the first form of distance education. The earliest record of this type of educational opportunity comes from an advertisement in the *Boston Gazette* on March 20, 1728, in which a shorthand teacher by the name of Caleb Phillipps offered to send weekly lessons to prospective students who lived in the country and wished to learn shorthand. However, the first evidence of an established institution of higher education offering distance education came over one hundred years later, in an 1833 advertisement from a Swedish university extending the opportunity to study composition via the post (Holmberg, 2002).

Seven years later, an Englishman named Isaac Pitman adapted his system of shorthand to fit on postcards, which were then mailed to students. The students were instructed to use the shorthand to transcribe Bible selections and to return the transcriptions to Pitman for correction. A few years later the Phonographic Correspondence Society, which later became the Sir Isaac Pitman Correspondence Colleges, was formed to continue his work. Not long after that, in 1856, Charles Toussaint and Gustav Langenscheidt began a correspondence language school in Berlin (Holmberg, 2002).

Correspondence programs spread rapidly at the end of the nineteenth century, particularly in Britain and the United States, where Anna Eliot Ticknor was a pioneer in distance education. A woman of wealth, Ticknor founded the Boston-based Society to Encourage Study at Home in 1873. The society provided housebound women with a modern course of study that they could complete at their own pace, and included over twenty courses in various subject areas (Simonson, Smaldino, Albright, and Zvacek, 2000). Students were guided through the curriculum with the help of well-to-do, educated women "correspondents," including Cary Agassiz, founder of Radcliffe College, and Elizabeth Cleveland, who helped found the Boston Museum of Fine Arts (Bergmann, 2001). The society's personalized instruction included regular correspondence along with guided readings and frequent examinations to assess the effectiveness of instruction.

Among the other early distance education efforts in the United States were programs begun by Illinois Wesleyan College in 1874 and the Correspondence University of Ithaca, New York, in 1883. William Rainey Harper, the first president of the University of Chicago, was also an early distance educator. In the 1880s, while at the Baptist Union Theological Seminary at Morgan Park, Harper developed correspondence courses in Hebrew ("William Rainey Harper," 2003). Well-known as the father of the American junior college, Harper is also considered by some to be the father of American distance education, because he strongly supported this form of education during his Chicago presidency. Thus, the connection between distance education and community or junior colleges dates back over one hundred years.

Also in the late nineteenth century, a newspaperman named Thomas J. Foster recognized that working adults with ambitions to better themselves needed a convenient way to learn advanced skills. He began developing correspondence courses to help coal miners gain the engineering knowledge they needed to earn promotions to positions such as mine superintendents and foremen. His efforts marked the beginning of the International Correspondence School (ICS) in Scranton, Pennsylvania. ICS enrolled more than a quarter of a million students in its first decade, and by 1894 was offering courses to students in Mexico, America, and Australia (Education Direct, n.d.). Known today as Education Direct, ICS continues to provide a large number of distance education programs via correspondence.

Advances in technology, as well as postal system limitations such as time delays, lost mail, and cost, eventually led to the use of radio transmissions and audio recordings to teach students at a distance. According to Simonson and colleagues, during the 1920s almost two hundred American radio stations delivered distance education to the masses. Audio transmission, however, eventually lessened as a new, visual technology was developed: the television. Although experimentally broadcast in the early 1930s, televised courses were not officially implemented until the 1950s when Western Reserve University became the first U.S. institution to offer a regular series of television courses (Simonson, Smaldino, Albright, and Zvacek, 2000).

Distance education also continued to develop in Britain. In fact, the founding of the British Open University in 1969 can be said to mark the modern movement in distance education. The Open University offered "full degree programs, sophisticated courses, new media and systematic systems evaluation" (Holmberg, 2002, p. 9). The Open University sparked similar programs around the globe, generated public recognition, and conferred prestige on distance education.

The combination of satellite technology introduced in the 1960s and the fiber-optic systems of the late 1980s expanded distance learning options by allowing for two-way live transmission of educational courses (Simonson, Smaldino, Albright, and Zvacek, 2000). These new technologies came with

high price tags, because colleges had to establish the networks needed to provide access to students. Advantages such as interactive education, however, have radically changed the face of distance learning and have been well worth the cost of the new technologies.

The Internet is the latest vehicle through which institutions offer credit and noncredit distance courses to students. The Internet has allowed for a variety of asynchronous (two-way communication involving a time delay between transmission and receipt) as well as synchronous (communication without extended time delay) activities, such as chat sessions and online discussions, which can be used to engage learners in student-to-student as well as student-to-instructor interactions.

The Internet also provides access to class materials, the latest research, and current news events. Like previous forms of distance learning, online education allows students to do coursework at times that fit their lives and schedules, rather than conform to a specified class time and location. Finally, this learning environment allows students who would normally not be able to obtain an education because of geographical distance or personal circumstances to do so without physically attending classes.

Distance Education in the Community College

Throughout its history, American higher education has kept up with the nation's social changes by increasing access. The system has evolved from one that primarily served elite and wealthy white adolescent males to one that provides opportunities for a variety of socioeconomically, ethnically, and intellectually diverse groups. Today higher education is not just for traditional college-age students, but also for students who are older, working, and may have families to support. Many of these students cannot afford to quit their jobs to attend school full time. Because of the changing demands of a growing student population, as well as diverse demographics and increased costs, educational institutions have been forced to find ways to become more productive, creative, and flexible in their delivery methods (Baker and Gloster, 1994; Barnard, 1997). The result has been the expansion of distance education in all higher education institutions. Community colleges in particular have responded to these demographic trends, workplace demands, and changing student needs, and have developed innovative ways to provide students with access to higher education.

The community college has traditionally been referred to as *the people's college,* and it is committed to providing access, opportunity, and a full scope of educational options to those who attend. Because of these attributes, as well as the unique populations they serve, community colleges have emerged as leaders in providing distance education, particularly to those students who live in remote areas or have limited access to educational resources (Inman, Kerwin, and Mayes, 1999). The community college commitment to serving students, and its willingness to provide

education "anytime, anywhere" makes it a prime candidate to lead distance learning in higher education.

Indeed, some educators feel that the community college is the natural "first tier" with which to begin implementing Web-based instruction systems (Johnstone and Tilson, 1997). According to a recent national study (U.S. Department of Education, 2003), 90 percent of public two-year institutions offered distance education courses in 2000–01. In addition, 95 percent of these institutions used asynchronous Internet technologies as the primary mode of delivery, compared with 87 percent of public four-year institutions. Public two-year institutions accounted for the majority of distance education enrollments in 2000–01 (48 percent of all enrollments were in two-year colleges, compared with 31 percent in public four-year institutions).

Community colleges have also led the nation in applying technology to teaching and learning (Doucette, 1993). There are a number of reasons why they have taken this leadership role. First, community colleges are driven by their distinctive missions, which often emphasize the importance of serving a high number of underprepared students. Technology has assisted community colleges in meeting this challenge effectively. Second, community colleges have also reached out to the workforce and provided opportunities for working adults to attend college on a part- or full-time basis. Distance learning technologies have offered these working adults an opportunity to fulfill their educational goals by allowing them to take courses that are more adaptable to their schedules and to their lives. Third, community colleges have partnered with business and industry to bring the classroom to the workplace, and to customize courses for specific workforce needs. Current distance learning technologies offer new opportunities to provide workplace and workforce education.

As our economy becomes increasingly knowledge-based, there is an ever-greater demand for skilled information technology workers in fields such as manufacturing, health care, and transportation. Because community colleges offer certificate and other programs that can provide entry into information technology jobs, many full- and part-time students are choosing to enter technical education through distance learning programs provided by community colleges. Finally, because community colleges often serve low-income and minority populations, their information technology programs have provided these groups with access to technology and electronic resources and have assisted in bridging the "digital divide"—the gap between technology haves and have-nots (Leach and McPhail, 2003).

Developments in technology have allowed community colleges to provide access for students throughout the nation and the world. As well, given recent state budget shortfalls, many colleges have looked to distance education as a way to save the expense of building new facilities while still accommodating an expanding student population (Bothun, 1997). Although there are certainly costs involved in developing a distance learning network, they can be weighed against the increasing expense of maintaining an infrastructure for on-campus

courses. Administrators can choose to build a multi-million-dollar classroom facility or invest the money in building a technological campus infrastructure. For community colleges that are limited in their ability to expand physically, especially those in urban areas, the choice is obvious. Distance education allows them to meet the needs of an ever-changing society and to do so economically and efficiently.

Challenges in Distance Education

Technological advances such as the Internet and its wealth of resources have changed higher education dramatically. These innovations, however, bring new and unfamiliar issues and concerns. In order for community colleges to grow and remain competitive, these challenges must be overcome and educators must be flexible and open to change. Although the following chapters will discuss in more detail some of the complex issues inherent in distance education, the following paragraphs provide an overview of some of the biggest challenges in implementing and sustaining distance education in community colleges.

Not All Stakeholders Will Support Distance Education. In every college, it is likely that one or more stakeholders will argue that distance education is a passing phase and will never replace the traditional classroom. Meanwhile, many more will recognize that this method of learning has irrevocably revolutionized education. Despite these differing opinions, if distance learning is to be a successful method of delivering education, all stakeholders—including faculty, staff, students, and administrators—need to accept it as a practical and effective instructional method. Most new methods of instruction meet with mixed or even negative sentiments, but most gradually come to be accepted as part of standard educational delivery.

Distance Education Requires Changes in Classroom Teaching. Distance education, and Web-based instruction in particular, has changed a number of aspects of teaching, including course content, teaching roles and methods, assessment strategies, interaction, and communication. Research has shown that teaching online requires different skills and pedagogies from those needed in the traditional, face-to-face environment (Fetherston, 2001). Because so many aspects of instruction must be changed when faculty move from the traditional classroom to the distance education environment, it is only natural that many instructors have reservations about this new method of educational delivery.

Distance Education Requires Innovation in Student Support Services. Many accrediting agencies are creating guidelines for the development of community college support systems for e-learners. Library services, financial aid, registration, and advising are just a few of the services that distance learners need access to, preferably without having to physically come to campus. Although many institutions have made concerted efforts to implement these services, many small institutions are unable to

afford the changes necessary to meet accreditation requirements and struggle with how to provide the support that distance learners need.

Faculty Must Gain Technological Expertise. Faculty support and training are necessary if distance education is to be successful in community colleges. Administrators have found that they need to help faculty gain technological expertise and instructional design skills. Establishing a marketable presence in the rapidly expanding online education environment requires a team approach to teaching and learning and collaboration between faculty, instructional designers, and programmers. Administrators must provide their faculty and staff with the resources they need to be creative, productive, and more efficient through the use of technology. When adequately implemented, these efforts can result in the development of entirely new departments dedicated to supporting faculty who teach distance education courses.

Distance Education May Change Institutional Culture. Faculty members are not the only individuals whose lives will change as a result of distance education; administrators too must understand the impact that associated technological advances will have on the culture of their institutions. New procedures and policies need to be developed, but faculty, staff, and students also need help in adapting to these changes. It is crucial that community college leaders provide support for distance education programs, because it is impossible to enact change without their support. Community college leaders can help both faculty and staff become comfortable with distance courses and services by providing them with professional development opportunities that address the changes in technology as well as the changes in their roles.

Conclusion

Over the last 150 years, and through a variety of technological advances, distance education has continued to transform higher education. Given the constantly evolving and diverse nature of their student populations, community colleges are the ideal institutions to take the lead in advancing distance education. However, distance education creates technical, pedagogical, and organizational challenges for institutions, and community colleges will need to address faculty, staff, and student expectations and fears. The following chapters will examine how various community colleges and other educational entities have approached these changes and challenges.

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