

HISTORY OF DISTANCE LEARNING

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Distance education is not a new phenomenon as it has actually been available since the 1700s. The first form of distance education was the correspondence school model, which has evolved into an electronic form to deliver education at a distance. This article traces distance education from its early beginnings to the present time with examples of past and current institutions that offer distance education.

Growth in the types and scope of distance education has been more evolutionary than revolutionary. Effective distance education focuses on the needs of the learners, the requirements of the content, and constraints faced by the teacher (Willis, 1994). Distance education takes place when a teacher and student(s) are separated by physical distance. The immediate clues the teacher sees in the traditional classroom when students are struggling with the content are absent in distance learning. Usually, print and audio/video media are used to bridge the instructional gap. In this article, we trace the roots of distance learning beginning with structured correspondence education and ending with an overview of the impact that distance learning is having in for-profit education.

CORRESPONDENCE EDUCATION

Correspondence education became practical only after a reliable postal service was developed that could carry the lessons and the students' responses. Without regular mail service, the delay between submitting the lesson and the receiving feedback would have been too long. As an early example, Caleb Phillips placed an advertisement in the Boston *Gazette* on March 20, 1728, offering to send weekly shorthand lessons to prospective students (Holmberg, 1995).

Early pioneers in distance learning recognized a need to augment learning opportunities for everyone. In the 1800s, Anna Eliot Ticknor organized a correspondence school based in Boston, Massachusetts. In "Society to Encourage Studies at Home," Ticknor offered

instruction in 24 subjects within six departments: history, science, art, literature, French, and German. Many of her students were young women, kept at home by the conventions of their time (MacKenzie & Christensen, 1971). During the 1880s, Thomas J. Foster organized a tutoring staff to help grade the assignments in the pamphlets distributed by mail to teach mine safety. When he expanded the subjects offered, this venture became the International Correspondence Schools (MacKenzie & Christensen, 1971). Early examples of distance learning from Great Britain included Isaac Pitman's shorthand courses offered through the mail and the Foulkes Lynch Correspondence Tuition Service, which offered courses in accountancy (Keegan, 1990).

THE LYCEUM AND CHAUTAUQUA MOVEMENTS

The lyceum movement—concerned with instruction of adults and dissemination of information on the arts, sciences, and humanities—also had a correspondence component. The lyceum, which originated in Scotland, sprung up soon after the Industrial Revolution when Dr. George Birbeck delivered

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lectures and demonstrations to young mechanics (Fithian, 2000). Lyceums were viewed as educational in nature since not all of the populace could afford the money or time to attend formal schools. When its popularity dwindled after the Civil War, much of its work was taken up by the Chautauqua movement. For almost thirty years, tent shows known as “chautauquas” brought popular education and entertainment to small towns in America from coast to coast (Schultz, 2002). The Chautauquas, although known primarily for their summer institutes, provided home-study courses that were supplemented with material furnished from the Chautauqua publishing house. In addition, they offered a four-year program of reading and correspondence instruction through which participants could earn certificates. Although Chautauqua did not have the resources to sustain this movement, its correspondence-for-credit arrangement was eventually adopted by universities (Noffsinger, 1926).

UNIVERSITY EXTENSION SERVICES

Although the early distance education entrepreneurs worked alone, organized education saw the need for greater availability of course material and began to enter the correspondence market. During the mid 1800s, both Oxford and Cambridge began offering extension services that included lectures at various sites and a system for correspondence instruction in Great Britain (Isman, Barkan, & Demiray, 1999).

In the 1870s, Illinois Wesleyan University began a successful home-study program, and in 1883 a “Correspondence University” was established at Ithaca, New York. William Rainey Harper, considered by many to be the father of modern correspondence education, developed a correspondence program while at Chautauqua, New York, in 1882. He continued this program in the newly established University of Chicago when he became its first president in 1891 (MacKenzie & Christensen, 1971).

University extension and correspondence work in the U.S. was advanced by the enactment

of the Co-operative Agricultural Extension Act (Smith-Lever Act) in 1914. Although most major universities still offer variations of correspondence or independent learning courses, the courses are limited in variety and in the number allowed for degree credit.

THE OPEN UNIVERSITY

United Kingdom’s Open University, the world’s first university to teach only at a distance, admitted more than 24,000 students in 1971, its first year. Open University pioneered admission without qualifications and the concept of degrees built upon credits obtained by taking a number of modular courses. Students used a range of media, including specially-produced textbooks, TV and radio programs, audio and video tapes, computer software, and home experiment kits (Perry, 1977). Open University has more than 150 courses being taught with instructors using the Internet for “virtual” tutorials and discussion groups, electronic submission (and marking) of assignments, multimedia teaching materials, and computer mediated conferencing (Open University, 2004). Open University, now Britain’s largest single teaching institution, has had over two million people take courses since 1971. The undergraduate courses are open to everyone, including 7,653 students with disabilities. Over 30% of the students attaining degrees since 1973 held less than the minimum entry requirements for a traditional university. The majority of the 2003 enrollment of 200,000 plus students were working toward a BA/BSc degree. Almost 80% of the students are working while enrolled in courses at Open University (Open University).

After the successful offering of courses overseas in 1982, the Open University Worldwide Ltd. (OUW) was established in 1997 as the International division. The success of the Open University in Britain paved the way for numerous experiments in higher education in other countries, including the United States (Open University, 2004).

THE EVOLUTION OF INSTRUCTIONAL DELIVERY TECHNOLOGIES

Distance educators have been quick to explore and adopt new technologies. In 1913, Thomas Edison proclaimed that due to the invention of film, “Our school system will be completely changed in the next ten years” (Saettler, 1968, p. 68). Although the dramatic change did not occur, instructional media were introduced into many extension programs by 1920 in the form of slides and motion pictures.

RADIO

By 1928, schools began using radio for adult education in both credit and self-enrichment courses. Early broadcasts were accompanied by reading lists and notes, and the librarians were asked to make available the books cited in the bibliographies. Although instructional radio had limited success in the United States, the British Broadcasting Corporation was very involved through the 1950s in educational broadcasting (Holmberg, 1995).

Athabasca, a Canadian University concentrating on the delivery of courses to part-time students at a distance, chose to use print and audio-tape material in the production of its self-instructional packages. Each course package was self-contained, with the tape presenting content and the booklet detailing learning objectives and exercises (Byrne, 1989).

TELEVISION AND MICROWAVE

The University of Iowa began experimenting with transmitting instructional television courses in 1932, seven years before television was introduced at the New York World’s Fair. Although the introduction of television was impeded by War World II, distance educators showed an interest in the potential of instructional television. By the late 1950s, 17 programs used television in their instructional materials. In an early education vs. media studies, Childs (as cited by Almeda, 1988) concluded that television was not an instructional method, but an instrument for transmitting instruction.

The number of educational television stations grew more rapidly in the 1960s, and by 1972 there were 233 educational stations (Carnegie Corporation, 1979). Ohio University, The University of Texas, and the University of Maryland were among the earliest universities to create networks to reach both on-campus and off-campus student populations (Breitenfield, 1968). Unfortunately, the mediocre quality of the instructional programming, which was often just a teacher delivering a lecture, resulted in a shrinking interest in funding instructional television (Reiser, 1987).

In the early 1970s, universities began to set up microwave networks to take advantage of Instructional Television Fixed Services, which allowed links to regional campuses and other universities. Though still a closed-circuit concept, distant students were for the first time considered part of the extended classroom (Breitenfield, 1968).

In the early 1980s, the Adult Learning Service (ALS) of the Public Broadcasting Service masterminded the first nationally coordinated initiative designed to make television college credit courses and other formal learning opportunities available to adults. More than 95% of the public television stations and nearly one-third of the country’s higher education institutions have participated at one time or another in ALS (Harry, John, & Keegan, 1993).

COMPUTERS

Although the use of computers as a tool for delivering education was implemented and experimented with in the late 1970s and early 1980s, boring and unimaginative software hindered the acceptance of the computer as a learning tool. Even when better software became available at the end of 1980s, teachers were still dubious and uninterested (Minoli, 1996).

With the advent of high-power personal computers, broadband communications, and digital video in the 1990s, telecommunications-based education started to realize its potential. Once the service and equipment vendors recognized the market potential in the education field, the pace of telecommunications increased

significantly. In addition to receiving significant support from the Federal Government, many of the distance learning initiatives originated at the state level.

Although the first online courses were delivered on command-line systems which required skill and patience from even the most dedicated user, a myriad of private and public universities offering online undergraduate and graduate courses emerged in the 1990s (Mason, 2001). As the newer conferencing systems and support for audio and video on the Web became available, online courses and degree programs offered by universities experienced phenomenal growth. Online courses have become a major force in many universities, especially those that have an outreach mission.

CURRENT TECHNOLOGIES

Current technologies support five major distance learning application solutions: Internet, groupware, educational TV, one-way video/two-way video, and two-way audio/video. Textbooks, video/audio tapes, CDs and the Internet are used to distribute instructional materials.

The National Center for Education Statistics (Waits & Lewis, 2003), reports that 90% of the institutions offering distance education courses in 2000-2001 offered Internet courses using asynchronous computer-based instruction, and 43% offered Internet courses using synchronous computer-based instruction. Among the universities offering distance education courses, 51% used two-way video with two-way audio and 41% used one-way prerecorded video as a primary mode of instructional delivery. Twenty-nine percent of the institutions offering distance education courses used CD-ROM as the primary mode of instructional delivery, and 19% used multi-mode delivery. Three percent of the institutions used other technologies.

Many organizations look at all potential options in search of the right combination of instructional delivery technologies to achieve the highest business impact for the lowest possible cost in course delivery. Bersin (2004) found numerous technology hurdles had to be overcome. Some of the areas that caused the most

grief included bandwidth, standards, learning management system software limitations, timing constraints, and metrics.

Morrison's (2003) concern was that "blended learning" will give way to "blurred learning." His criticism was that "blended learning" is simply ... "we can't make up our mind learning" (p. 1). His view was that those who are not sure which type of learning to use are likely to use many different modes in the hope that the whole will be greater than the sum of its parts. However, Troha (2002) offered a straightforward and practical step-by-step process to help determine the optimal "blend" that will allow managers or directors to: (1) understand the true scope and nature of the project, (2) gain the support of all internal stakeholders early in the process, (3) efficiently and accurately communicate project scope and requirements to potential providers, (4) hire the best provider for the job, and (5) confidently manage and monitor project tasks to ensure success.

New and flashy technology is not the enticement for most distance educators; rather, they are motivated by the desire to provide education to those who were previously denied it. This motivation goes back to the roots of distance education. Anna Eliot Ticknor expressed her concerns that education opportunities should be available for all social classes rather than focus on the wealthy class only. Likewise, throughout the years, predictions of steadily expanding correspondence and distance education reflect an understanding of the significance these educational alternatives have on society. Long before the U.S. Department of Labor published *Workforce 2000* (Johnston & Packer, 1987), distance educators recognized the need for providing flexible, cost-effective learning opportunities. Almost 40 years earlier, Wedemeyer and Childs (1961) suggested several factors that would contribute to a growing interest in correspondence education: rapid technological change that would require constant updating in education, geographic isolation, and increased awareness that improved education contributes to improved economic status. For many Third World and developing countries, distance education is seen as a way of developing the trained workforce

needed to meet the needs of a modernizing economy and of helping employed individuals keep pace with the technical and other changes affecting their work (Rumble & Oliveira, 1992).

UNIVERSITIES WITHOUT WALLS

National Technological University (NTU), with the support of IBM and several other technology companies such as Motorola and Hewlett-Packard, maintains that it was the first accredited “virtual” university. Responding to the need to update and refresh technical skills, NTU began offering graduate degree programs in 1984 using courses supplied by seven universities. During the last 20 years, NTU has granted over 1,800 master’s degrees in engineering, management, and computer-related fields to individuals who were employed full-time. Many prestigious organizations sponsor NTU and are permitted to offer selected courses for their employees via satellite and the other delivery technologies available. Today, NTU offers graduate-level degree programs and professional development training programs through a consortium of nearly 30 leading universities and engineering colleges (National Technological University [NTU], n.d.).

Believing that education should be available to everyone, everywhere, Glen R. Jones founded the Mind Extension University® (ME/U) in 1987. He distributed and helped administer undergraduate and graduate degree programs through a cable television network, supplementing the video courses with texts and other collateral materials. Although changes in technologies led to increased use of computing and related digital media, the ME/U-based system cable channel enabled 30,000 students to take courses from over 30 colleges and universities via television. With this success, he launched the Jones International University (JIU) in 1993. This was the first university to exist entirely online. The majority of JIU’s students are working adults. The Higher Learning Commission, a member of the North Central Association, granted accreditation to Jones International University in 1999 (Weiser, 1999).

Recognizing the great need to enhance the delivery, quality, and accountability of

postsecondary education and career-oriented lifelong learning through technology and related innovations, Congress appropriated \$10 million for fiscal 1999 for the Learning Anytime Anywhere Partnerships (LAAP) program. The LAAP program was authorized under Title IV of the Higher Education Amendment of 1998. During 2000, \$15 million was granted; and during 2001, \$30 million was granted. These grants included activities that would develop and assess 1) model distance learning programs or innovative educational software; 2) methodologies for the identification and measurement of skill competencies; 3) innovative student support services; or 4) support other activities that are consistent with the purpose of this subpart (U.S. Department of Education, n.d.).

Title VIII of the Higher Education Amendment of 1998, the Web-Based Education Commission Act, established the Web-Based Education Commission (WBEC). The commission’s final report, released December 29, 2000, issued a “call to action” to Congress and the Administration “to embrace an e-learning agenda as a centerpiece of our nation’s Federal education policy” (Web-Based Education Commission [WBEC], 2000, p. 12). In particular, the Commission suggested that the Federal Government assess to what extent the 12-hour rule, (student’s hours must be classroom-based to receive Federal Aid), the 50% rule (the institution cannot offer more than 50% of total classes online), and incentive compensation requirements create barriers to students enrolling in online and distance education courses. Along with supporting the growth of educators through the use of technology, the Commission recommended establishing initiatives and models that make just-in-time, just-what’s-needed training and support available to educators (WBEC).

The Distance Education Demonstration Program, authorized in the 1998 Higher Education Amendments, is not a grant program. Recognizing the growing trend toward distance education, Congress placed restrictions on the percent of distance education programs a postsecondary institution could offer in order for its students to be eligible for Title IV funds. The purpose of this program was to test the quality

and viability of expanded distance education. In 2003, there were 24 participants, involving over 100 institutions (U.S. Department of Education, 2003). In 2006, this restriction was removed.

Colleges and universities engaged in electronic campus programs benefit from the greatly expanded pool of students—without having to add a single dormitory, parking space, or classroom. Moreover, these “virtual” campuses benefit an under-served populace who, for reasons of work, family, location, or other limitations, do not have direct access to traditional on-campus programs. The expansion of the shorter-term certificate programs and open university policies enable adults to get more job-related education that may allow the participants in these programs to enrich their jobs and/or receive higher earnings. As universities continued to expand their course and degree offerings, a concern for competition for student tuition dollars emerged. Consequently, alliances with other universities and corporate partners flourished.

WESTERN GOVERNORS UNIVERSITY

In 1995, governors of 13 western states each pledged \$100,000 to launch the Western Governors University (WGU), one of the most ambitious and extensive distance-learning systems in the country (Perry, 1997). In addition to these original pledges, WGU received a \$500,000 grant from the Alfred P. Sloan Foundation in 1996 and a \$250,000 grant in 1997 from the AT&T Foundation to complete initial administrative tasks in its development. In addition to its presence in the U.S., WGU now has five international alliances (AT&T Foundation, 1997; Global Education Digest, 2004; Western Governors University [WGU], n.d.).

Western Governors University graduated its first five students in 2001. The average age of WGU students was 40 and over 90% of them worked full time. Enrollment is growing by about 10% each month, and there are now about 1,800 students enrolled from all 50 states and 8 different countries (WGU, n.d.).

WGU’s promise to revolutionize higher education by offering degrees based on a

competency-based system (the ability to demonstrate skills and knowledge through a series of assessments designed to measure knowledge in a field of study) encountered several obstacles and did not trigger brisk competition by existing colleges. Accreditation was a major concern; courses were accredited through the institutions that created them, but the degrees granted by WGU were not. To make matters worse, the member institutions were covered by four different regional accrediting agencies (Carnevale, 2000b). After submitting enormous amounts of detailed documentation to the various accreditation agencies, Western Governors University received national accreditation by the Accrediting Commission of the Distance Education and Training Council (DETC) in June 2001. In February 2003, WGU became the first university to receive regional accreditation from four regional accrediting commissions at the same time (WGU, n.d.).

In March 2003, Western Governors University launched the only online competency-based teachers college in the country. WGU Teacher’s College was created through a \$10 million Star Schools Grant from the U.S. Department of Education. Additional funding was provided by foundations and corporate partners and additional federal grants for teacher education (Cavanagh, 2004).

CALIFORNIA VIRTUAL UNIVERSITY TO CALIFORNIA VIRTUAL CAMPUS

The State of California declined the offer to join Western Governors University and instead began offering its own brand of Internet education under the umbrella of the California Virtual University (CVU) in 1998. In January 1998, 65 California campuses offered a combined total of 700 online and technology-mediated distance education courses, enrolling 9,800 students (California Virtual University [CVU], 1999). Since no more state or private funding was available, CVU was forced to reorganize and discontinued services by April 1999 (Blumenstyk & McCollum, 1999). The University of California maintained the CVU web page until 2000 when a new venture, the California Virtual Campus (CVC), took

responsibility. Although the catalog remained open to all accredited colleges in California, only the state's 108 community colleges could access the rest of the services provided by the California Virtual Campus (Young, 2000).

By 2002, the CVC listed over 4,500 distance learning courses in the online course catalog. The California Virtual Campus does not grant degrees or certificates. Its organizational structure supports statewide and regional core administrative service training for staff and instructional training for faculty. CVC affiliates responding to a survey in Spring 2003 indicated that the faculty training provided by CVC was critical to the success of their online programs ("What Faculty," n.d.).

SOUTHERN REGIONAL EDUCATION BOARD

The Southern Regional Education Board (SREB), established more than 50 years ago, provides an efficient mechanism for states to improve and share resources in higher education. The SREB's regional administration of key programs helps avoid costly duplication and expensive development (Mingle & Chaloux, 2002).

More than 20,000 students are currently participating in 8,000 classes offered by over 350 colleges and universities through the SREB Electronic Campus. Although no degree programs were available in 1998 when the Electronic Campus concept was announced, more than 300 degree programs are available. Initially, 45 colleges and universities provided 104 courses. They developed a system to ensure that all courses and programs offered by all institutions in the SREB's Electronic Campus met the "Principles of Good Practice" (time on task; high expectations; rich, rapid feedback; active learning; interaction with faculty and peers; and respect for diversity) adopted by the Board (Carnevale, 2000a).

UI-ONLINE

Recognizing that these meta-universities were beginning to establish themselves in the emerging global free market for educational services, the University of Illinois established UI-Online in

1997 to ensure its survival in the next millennium. The concern was that the online programs created by these multi-university collaborations could become potential alternatives for place-bound learners. All of the certificate programs, degree programs, and public service resources offered under the UI-Online umbrella are grounded firmly in the academic programs of its three campuses and taught and managed by the same faculty and subject to the same quality controls. Aimed at off-campus learners, UI-Online lists 60 programs including professional degrees, master's degrees, and several baccalaureate completion programs. The University of Illinois at Springfield (UIS) is currently working towards creating an online "mirror campus" (Carnevale, 2004). The university hopes to have all 39 of its degree programs available online within ten years.

In addition to the online initiative at its three campuses, the University of Illinois is also a significant partner of the Illinois Virtual Campus (IVC) and Illinois Online Network (ION). IVC provides students information about the online courses and programs available throughout the state. ION's function is to advance utilization of Internet-based instruction in both the traditional classroom and in a completely online format. Making the Virtual Classroom a Reality (MVCR) initiative, a series of nine 8-week online courses created by ION, is designed to help faculty members develop effective online teaching skills (Ko & Rossen, 2001).

FOR PROFIT VENTURES

Spurred by huge demand, hundreds of other U.S. institutions, public and private, large and small, are also getting into the business of online instruction. Market research and strategy consulting organization, Eduventures, anticipates that the online education market is likely to grow to \$15 billion by 2008 ("Worldwide and U.S. Corporate eLearning," 2004).

In 1989, the University of Phoenix (UOP), the fifth largest private university in the United States at the time, established the "Online Campus" in San Francisco, California (Moe, 2002; University of Phoenix [UOP], 2004). Now the largest, UOP Online offers 14 undergraduate,

22 graduate, and 4 doctoral degrees. The UOP Online Campus serves 99,457 students from around the world (UOP). The University of Phoenix is accredited by the Higher Learning Commission (HLC) and is a member of the North Central Association (NCA).

DeVry University, listed as the third largest university by degree enrollments in 2001 (Moe, 2002), offers online degree programs in business administration, computer information systems, information technology and technical management. Its online enrollment more than doubled from 3,824 in fall 2002 to 9,077 in fall 2003 ("DeVry University offers," n.d.). It is accredited by the HLC and is a member of the NCA.

Only in existence since 1994, Career Education Corporation (CEC) is one of the fastest-growing providers of private, for-profit postsecondary education (Moe, 2002). Internal growth and numerous (26) acquisitions have yielded CEC a compounded annual growth from 1998 through 2002 of 74% for revenues and 196% for net income (Career Education Corporation [CEC], 2004). Currently, 79 campuses exist in the U.S., France, Canada, United Kingdom and United Arab Emirates. CEC's Online Education Group offers degrees in information technology, business, visual communication, and education. The total student population of 85,300 students includes 15,600 full-time, online students (CEC).

CONCLUDING COMMENTS

According to Draves (2002), in the 21st century educational organizations will embrace education as an activity, not a place. Only space that is utilized for 12-18 hours a day will be able to justify the cost. Draves believes that all face-to-face classrooms of the future should be carpeted, with chairs arranged in a circle to facilitate discussion. Bates (2001) envisions students meeting for classes in a relaxed cafeteria-style setting using their Wi-Fi connected laptops to access the Internet.

Levine and Sun (2002) predicted there will be three types of institutions—"brick," "click," and the "brick and click." The successful "brick"

institutions, the traditional campus-based college or university, will be residential colleges that attract the younger 18 to 22 year-old traditional students. The "click" institutions, virtual universities relying entirely on e-learning to distribute their learning programs, will focus on the nontraditional populations of adult learners and part-time students. But the most prevalent will be the "brick and click" institutions, which will fuse conventional and e-learning methods. These institutions will utilize a blended model where students meet occasionally in the traditional classroom while completing a majority of instruction and activities online.

Although distance learning has made great strides, there is obvious room for improvements. However, the purpose of these authors was merely to trace the development of distance learning. It would appear prudent to encourage further research to explore methods that would reduce attrition rates, increase student satisfaction levels, and improve learning outcomes for students in online courses.

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