Distance Education in the U.S. : A Status Report

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1. Introduction -- Higher Education at a Cross Road

Distance education is not a new phenomenon: American universities offered correspondence courses a century ago. In 1995, according to a survey released in the spring of 1998 by the U.S. Department of Education, a third of all institutions offered distance education courses, and another quarter planned to. It is believed that, in these two years, almost every university either has or plans to offer courses, if not entire degree programs, through distance education [Marchese 1998]

Distance education becomes ubiquitous. Management philosopher Peter Drucker boldly proclaimed that "Universities won't survive. The future is outside the traditional campus, outside the traditional classroom. Distance learning is coming on fast." [Forbes 1997]. Milton Friedman, a Nobel Prize laureate doesn't think higher education should be a monopoly of not-for-profit institutions. He argues that profitmaking businesses are inclined to be more responsive to the customers. [Forbes 1997]. The most powerful motivation for distance education is the corporate demand for learning and training in their workforce. In 1997, Forbes magazine chose 20 top *cyber universities* [Forbes 1997], including Duke, CMU, University of Maryland system and CSU Dominguez Hills.

In this paper, I will survey the major establishments of distance education. A successful distance education program requires tremendous resources and supports. For many schools, these investment requirements are beyond their reach. To fit the niche, there is a new player emerging in the scene of distance education: the Education Service Provider (ESP). I will explain what an ESP is and why it is important to distance education. Lastly, major issues such as the effectiveness, quality control, legislature, an accreditation of distance education will be addressed. A more detailed paper can be found in [Wong 1998].

2. Major Establishments on Distance Education

In this section, I will highlight the development of several major developments on distance education in the US. The list is not meant to be exhaustive. A comprehensive guide on schools offering distance education can be found in [Peterson 1998, Philips 1998].

2.1. REGIONAL VIRTUAL SCHOOLS

Many university systems (e.g. Maryland, Wisconsin, Hawaii, Nebraska, etc.) are organizing and centralizing their resources to support distance education. At a higher level, we are witnessing the growth of *mega* distance education establishments that combine and unite regional resources to provide and promote distance education in large scale. Three major *regional virtual schools* will be discussed here. These are not individual schools, or school systems. In two cases, they include multiple states in the region. All three virtual schools act as a leader, entry-point, and clearing houses for distance education. They aim at providing *one-stop shopping* for the public (not restricted to their states) to receive education.

2.1.1. Western Governors University (www.wgu.edu)

WGU was founded back in 1996 by 17 western states of US. Its online academic content comes from a range of qualifying providers (currently 20 of them who are either colleges or businesses, from the region or abroad), and all degrees are *competency-based*. In 1997, WGU officials signed preliminary agreements to collaborate with The Open University in Great Britain; the Open Learning Agency in British Columbia, Canada; and the Tokai University Educational System in Japan

2.1.2 California Virtual University (www.california.edu)

In 1996, refusing to join the WGU, the Governor of California and leaders of California higher education believed that they could establish a distance education consortium that would combine California's unique educational assets and more effectively meets the needs of California students and employers. The educational assets include the University of California System, the California State System, the community college system and also the private universities in the state such as Stanford, USC, Pepperdine etc. CVU, similar to WGU, does not confer degrees nor handle individual student admissions. It is basically a electronic catalog that contains all courses offered by the universities and colleges in the state.

2.1.3 Southern Regional Electronic Campus (SREC) (www.srec.sreb.org)

The Southern Regional Education Board (SREB) was created in 1948 at the request of Southern governors and legislators. For 50 years, the SREB has been serving educational and governmental leaders in Southern states by identifying and directing attention to key issues in education. The Southern Regional Electronic Campus (SREC) was formed by SREB. It aims to create a marketplace of courses offered by TV, the Internet, and otherwise; its online catalog now lists 100 mostly Web-based courses from 42 colleges. It is very similar to the goals and objectives of the Western Governor States and the California Virtual University.

2.2 IVY LEAGUE AND PRESTIGIOUS SCHOOLS

Distance education is not restricted to less prestigious schools. On-line education makes it possible for students all over the world to study at prestigious U.S. schools without leaving their homes or countries. Elite institutions such as Johns Hopkins, Cornell, Duke, Rice, Stanford, Yale, and the University of Chicago are developing or expanding their distance learning programs [Chronicle 1997]. In addition to developing distance education by individual schools, many prestigious schools form *academic alliance* to offer distance education. The notable one is the recently formed academic alliance of Columbia University, the University of Chicago, Stanford University and the London School of Economics and Political Science. The alliance is managed by a privately held Internet education company named UNext.com and intends to offer business education, eventually MBA degrees (Section 2.4.3) [UNext 1999]. The following several schools attracted great interests in the higher education community.

2.2.1 Columbia (www.cvn.columbia.edu)

Columbia's School of Engineering and Applied Science has been bringing graduate-level courses to the corporate workforce for over ten years. Columbia Video Network (CVN) was established in 1986 to provide engineering courses delivered in video to the working professional. Off-campus engineers can take advantage of the same benefits and privileges as on-campus students. Columbia is also a supporting member of the National Technological University (Section 2.3.2).

2.2.2 Duke

At Duke University's Fuqua School of Business, almost half the students at its brand-new on-line Global Executive M.B.A. program live outside the U.S., "commuting" by E-mail from as far away as Switzerland and Hong Kong. These students are willing to pay a premium for the convenience of the remote access and the prestige of a Duke degree:

$82,500, compared with $50,000 for the regular on-campus M.B.A.

2.2.3 MIT (caes.mit.edu)

CAES, the Center for Advanced Educational Services, is the main MIT facility for support of, and research in, technology-facilitated education. To the community beyond the campus, CAES is the main source of MIT continuing professional education, often via distance learning. CAES also offers a variety of products (non-credit material) available for purchase for reference or self-study. Products offered include Educational Video Courses videotaped copies of many outstanding lectures and special events. CAES also produces satellite broadcast courses for PBS The *Business Channel* (TBC) that are specially-designed for professional engineers, scientists, and managers. MIT is also a supporting member of the National Technological University described in Section 2.3.2 below.

2.2.4 Stanford (scpd.stanford.edu/ce/telecomonlinedegree.html)

Stanford has a long history of distance education. The Stanford Center for Professional Development (SCPD) started to deliver graduate education online in 1995. At the core of SCPD is the Stanford Instructional Television Network, SITN, now in its 30th year at Stanford. Courses and programs are delivered in a variety of formats including Internet, broadcast, CD-ROM, web, two-way video, and videotape. SCPD provides over 300 corporate and government sites educational programs including full length Stanford courses as well as customized educational solutions and seminars. In 1998, for the first time, Stanford University has made a graduate degree program available entirely online: a master's degree in electrical engineering with a focus in telecommunications.

2.3. FOR-PROFIT-MAKING UNIVERSITIES

2.3.1 University of Phoenix (www.uophx.edu)

Phoenix is the most aggressive manifestation of a larger, branch-office trend combined with the ubiquitous distance education. From next to nothing a handful of years ago, Phoenix suddenly has 48,000 degree-credit students at 111 learning centers in 32 states. Its parent, the Apollo Group, recently reported quarterly profits of $12.8 million (before taxes) on sales of $86.5 million. Apollo also owns the College for Financial Planning (22,000 noncredit students), Western International University (1,800 students), and an Institute for Professional Development that provides contract services for program development and management services at 19 colleges.

2.3.2. National Technological University (NTU) (www.ntu.edu)

The Fort Collins-based (Colorado) National Technological University, a 15-year-old university, is a cooperative effort by 50 major universities, including MIT, UC Berkeley, University of Illinois, Purdue, CMU and Boston, to provide for the graduate and continuing education needs of engineer, technical professional and manager. These member universities are linked by satellite telecommunication and compressed digital video to more than 1,000 work locations internationally and by interconnections to other regional networks to another 350 sites in the US. NTU offers and confers 14 master's degree programs. It does not award bachelor's or doctoral degrees. These degrees are mostly in technical or management programs.

2.3.3. Jones Education Company (JEC) (www.jec.edu)

The Denver-based company is a very unique establishment in distance education. The company started as a cable company and later in early 90s developed the Mind Extension University (ME/U) (now Knowledge TV), the educational cable network that delivers college-level courses for credit in conjunction with more than twenty colleges and universities. At this point of time, JEC has three major parts: Knowledge TV, College Connection that links to different schools who offer their online courses through JEC and Knowledge Store. In addition, they have started an International University that offers BA and MA degrees in Business Communication.

2.4. FOR-PROFIT-MAKING EDUCATIONAL COMPANIES

2.4.1 EXEN (/www.exen.com)

The Executive Education Network (EXEN) delivers interactive management development programs live via satellite to downlinks at corporate locations. These programs are developed by America's leading business schools and institutions (such as courses distributed by Harvard Business School Publishing). The courses can be delivered to any existing facility, training center, or conference room via a satellite connection.

2.4.2 Knowledge Universe (www.knowledgeu.com)

Knowledge Universe was formed in January, 1996. The principal investors in Knowledge Universe are Lawrence Ellison (the CEO of Oracle the world market leader of database systems), Michael Milken (the once flamed junk bonds king, a symbol of the 80s on Wall Street and later convicted) and Lowell Milken. In 1998, just two years after it was formed, KU already has more than $1 billion in revenues, with a hypothetical market value of $4 billion to $6 billion.

The vision of KU is to provide educational products everything from preschools for 2 year-olds and CD-ROM-based math tutorials for high school students to executive training and continuing education for retirees--as one vast market, with individual companies integrating these diverse businesses. In doing so, KU owns an wide spectrum of companies from educational toys company (LeapFrog Toys), to an interactive on-line publishing company (MindQ Publishing, Inc.) to its own university (Knowledge University).

2.4.3 UNext.com (www.Unext.com)

As mentioned in Section 2.2, the recently formed academic alliance of Columbia University, the University of Chicago, Stanford University and the London School of Economics and Political Science to offer business education is, by far, the most *unusual* cooperative effort ever seen in higher education. The participating schools are long time competitors to each other, each with their long prestigious traditions and expertise.

3. Educational Service Providers (ESP)

3.1. WHAT IS AN ESP?

Unfortunately, the technologies and resources to support an effective distance education program are very expensive. An ESP is a commercial organization whose mission is to provide services to satisfy the needs of distance teaching and learning for both the educational institutes and students. ESP in many ways is similar to an Internet Service Provider (ISP). ESP helps an educational institute to develop its distance education programs, to market the programs, to deliver the courses and to manage the courses. In other words, an ESP provides an educational institute a total solution while the institute can concentrate what it does best -- to become the content expert. On the other hand, an ESP serves students by providing them with a one-stop shopping for distance education programs, with around the clock technical support, instant, smooth and user-friendly access to the course materials. It provides students an integrated environment to submit their homework assignments and examinations, to interact with the instructors and other fellow students. It furthers gives the student a sense of community and it supports groupware that allows students to work and manage their group projects. An ESP may or may not be an educational institutes (for example, does not offer any courses itself.) In so doing, we find that ESP fills in a very vital need in distance education.

3.2. EXAMPLES OF ESPS

3.2.1. Embanet (www.embanet.com)

Embanet is basically an ESP that helps colleges and universities to deliver online courses. They help to build, host, and maintain the web-bases courses for the schools. They also provide training to the faculty and students. In addition to the hosting, they offer around the clock live technical support. Embanet is currently being used by over a hundred institutions across the U.S , Canada, Europe and Latin America. For example, UCLA's extension program offers 800 of its courses via the Internet through an exclusive contract with OnlineLearning.net (www.OnlineLearning.net), formerly, The Home Education Network (THEN). It, in turn, contracts out to Embanet to do the hosting. Embanet will charge one-time cost for each course development. For each student enrolls in an online course, Embanet will charge a fixed amount per head per course.

3.2.2. eCollege.com (Formerly RealEducation) (www.eCollege.com)

Denver-based eCollege.com (formerly called Real Education), a firm that promises "to get your university online in 60 days", is another example of an ESP. They build entire online educational systems complete with remotely hosted software, online courseware and services plus faculty training. They have relatively close relationship to the Western Governors University and those universities and colleges in Colorado. They have five national distributed, fully redundant server farms and use more than 200 T1 lines to provide the necessary bandwidth. Similar to Embanet, they charge a one-time fees to help put entire school online. For each course, they will also charge a one-time translation fees to convert the teaching materials to web-based. They, then, charge each student enrolled in each course (per student per class) a fixed amount.

3.2.3. Blackboard (www.Blackboard.com)

Similar to eCollege, Blackboard is an ESP in very sense. Individual instructors can use the Blackboard online software to move class materials to a *single* course website hosted by Blackboard, *free of charge*. Entire campus or department can subscribe the service by paying fees. Their fees, different from eCollege, are based on per server per year. Paying one flat fee, Blackboard helps a campus to launch and host unlimited courses and support unlimited students (up to the capacity of the server).

4. Major Issues in Distance Education

4.1. IS DE AN EFFECTIVE WAY TO DISPERSE KNOWLEDGE?

Most education experts believe that distance education is effective to certain type of courses and students. For example, the University of Phoenix gave standardized achievement tests to a group of B.S. graduates. It gave the same test to a group of B.S. graduates from competing on-campus programs at three public Arizona universities. On average, the on-line students scored 5% to 10% higher than their traditionally educated peers and maintained that margin upon completing their course work [Forbes 1997]. Many schools who offer online courses can attest that the effectiveness and motivation of online students are, on the average, higher than those students who take the same courses on campus. One reason can be attributed to the background of online students. As reported by most distance education schools, the online students tend to be older and many are working professionals (since most online courses are offered at the master degree level or they are professional courses).

4.2. ARE WE CUTTING CORNERS? QUALITY CONTROL AND ACCREDITATION

Many educators are concerned that the rapid growth of distance education will eventually become a degree mill that cranks up easy and convenient degrees by cutting corners and lower the standard. Their concerns are very legitimate. A closer look at the schools offering distance education in Peterson's Guide [Peterson 1998] reveals that many of them are not accredited.

The quality issue is twofold: first, we have to convince the public that distance education does not provide sub-standard education. Typically, the public would like to see that the same admissions standard and process will be applied to distance education students. DE students will also receive identical instructions, homework assignments and examinations as the on-campus students. At it stands, most DE schools voluntarily adopt the same admissions standard and process to their DE students as the regular students. As for exams, most prestigious schools require *proctor* exams for their distance learning students. This is a step in the right direction to show that the quality of education is not being compromised.

Secondly, the most powerful vehicle to control the quality, and not on a voluntary basis, is by accreditation. Academic and professional accreditation have long been a symbol of quality and prestige. An independent accreditation organization can evaluate distance education programs of different schools in an unbiased and objective manner.

4.3 LEGISLATURE AND REGULATIONS

Accreditation, historically, worked well since they were geographically oriented. The accreditation was given to those who passes strenuous scrutiny on their programs, their faculty, their school management, facility and support resources. It works fine since schools are traditionally confined to their physical

locations. An out-of-state school, in most states, is required to have authorization, license, or approval of programs. However, distance education is geographic independent. There are many questions that need to be answered from a legislature and regulation point of view. Consider the following regulation issues: Do we treat electronically delivered programs from out-of-state institutions differently than those taught site in our state? Do we regulate distance learning programs distributed by institutions in our state?

Not that many state legislatures understand the impact of distance education. It is time that we must start the discussion on the legislature and regulation of distance education, from the consumer point of view: how to protect the public from being taken in by sub-standard education.

5. Concluding Remarks

In this paper, I have summarized the major development of distance education in the US in the past 2-3 years. The trend of distance education, as described in Section 2, is the formation of large consortiums or regional distance education power houses. At the same time, I identified that there is a niche market for the Education Service Provider (ESP).

Distance education does provide many benefits that traditional schools cannot render. Obviously, distance education is not for everybody, nor for every subject. The individual must be self-motivated, have disciplined and must be mature enough to be an active learners. Higher education does not need to be delivered in a single modal approach. With distance education, a multi-modal approach combining classroom instruction, synchronous and asynchronous delivery, can be very effective.

Educators and institutions should focus on the issues of quality control and accreditation to prevent schools from providing sub-standard education. Accreditation should go beyond national boundary. Government and legislature agencies should also start the debate and discussion on licensing distance education.

Higher education will never be the same any more.

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