

Some Observations On Web-Based Course Delivery At Historically Black Colleges And Universities

Roberta Hudson, Kai S. Koong, and Lai C. Liu
Graduate Studies Program in Computer Information Systems
Southern University at New Orleans
New Orleans, Louisiana 70126, USA

Abstract

The delivery of educational programs has evolved dramatically. Distant delivery of educational programs was made possible by the invention of the printing press. The printed book provided an inexpensive media to disseminate knowledge to the masses. In later part of the 20th Century, radio and television were also used for broadcasting educational programs. Internet-based course delivery programs were introduced recently and this innovation has brought about a new challenge to the concept of educating the masses. This study identifies the availability of Internet based course delivery programs at selected MOLIS institutions. Specifically, this research examines the type of courses available, degree program offerings, tuition cost, and selected demographic information of those institutions. The results of this study should be of interests to administrators at institutions considering internet-based course delivery programs, faculty members developing Internet courses, and reviewers from accreditation agencies. Human resource managers seeking flexible courses for the professional development of employees, individuals looking for specific distant delivery courses and degree programs, students requiring access to non-traditional educational programs, and the handicapped needing academic programs that can be completed at home will find this study useful. In particular, researchers, legislators, and consultants of minority institutions will find the results of this study significant.

Keywords: Internet-based course delivery programs, distance delivery, distance education, online educational programs, Historically black colleges and universities (HBCUs)

1. INTRODUCTION

Distance education programs refer to alternative ways which individuals can use to obtain academic and work related knowledge. The United States Distance Learning Association (USDLA) has the most common definition for distance education. According to the USDLA, distance education refers to teaching and learning situations in which the instructor and the learner are geographically separated. As a result, they have to rely on electronic devices and print materials for instructional delivery (Kappel 1998).

There are four major media used in the delivery of distance education. These media include voice, video, data and print. Examples of instructional audio tools include the interactive technologies of telephone and audio conferencing. Passive audio tools, on the other hand, include tapes and short wave radio. Instructional video tools include still images such as slides, the pre-produced moving images like film, videotape, and real-time moving images. Some of these video tools may be used in an audio conferencing environment.

The term data is used to describe a broad category of instructional tools that may be transmitted electronically from one computer to another. The more common form of data used for instructional purposes included Computer-Assisted Instruction (CAI), Computer-Managed Instruction (CMI) and Computer-Mediated Education (CME). CAI uses the computer as a self-contained teaching machine to present individual lessons. CMI uses the computer to organize instruction and track student records and progress. CME describes computer applications that facilitate the delivery of instruction. Examples of CME include electronic mail, fax, real-time computer conferencing, and World Wide Web applications.

Print is a foundational element of distance education programs and the basis from which all other delivery systems have evolved. The various formats of print media include textbooks, study guides, workbooks, course syllabi, and case studies.

As expected, the introduction of distance education with new technologies has picked up the pace of change in

the classroom. Change is always accompanied by questions of doubt. Despite concerns about quality, it appears that distant students can learn as much as students receiving traditional face-to-face instruction. Research comparing distance education to traditional face-to-face instruction indicated that “regardless of the technology used, distance-learning courses compare favorably with classroom-based instruction and enjoy high student satisfaction” (Meritotis; Phipps 1999).

The newest form of distance delivery uses the Internet to connect the instructor with the student. Though an age-old concept evolving from the mid-19th century, Internet-based delivery programs seem to be the new item on the market for the 20th century (Neal 1999). What is this new idea or concept?

In Web-based delivery, the traditional classrooms have been replaced with web-based chat rooms and face-to-face discussions with posted messages and responses via electronic text-based messages. From an operational perspective, the Web has had a tremendous effect on the traditional teacher to student classroom structure. Compared to traditional classroom delivery where there may be little to no computing usage, “... nearly 24% of classes were being held in computer-equipped classrooms and that 20% of courses were using e-mail” (Rahm; Reed 1997).

When people talk about examples of distance education, be it via regular medium or the Web, they are often referring to course and degree offerings at colleges and universities. However, distance education can occur at the workplace as well. According to the U.S. Department of Labor statistics, “75% of the workforce or 90 million people will need to be retrained by the year 2005” (Bersch 1999). By providing access to job related curriculum, distance education can be an effective medium to meet the needs of the increasingly large and distributed workforce.

Private companies and non-profit organizations have step up to meet the new challenge and are harvesting healthy revenues. In addition, projections are most encouraging. According to the Internet research firm International Data Corporation, “... companies reported spending \$100 million on Internet-based training last year and that figure is expected to leap to \$6 billion by 2002” (Bechard 1999). This is one primary reason why schools and universities need to realize that there is a different population needing access to education opportunities. Contemporary technology, such as Web-based delivery, can be used to better serve existing targets as well as new clients.

2. STATEMENT OF THE PROBLEM

The possibility of higher education may not always be available to everyone. There are a variety of reasons for this problem. One of the predominant factors is cost.

More than half of the students attending four-year institutions will pay up to \$4,000 in tuition and fees. Another quarter of all the total student population will pay tuition charges up to \$8,000. The cost of sending a student to a public university had risen from 9 percent of median family income fifteen years ago to 15 percent of median family income today (Neal 1999).

Another factor hindering a person from getting an education is location. For the working class, persons in remote areas, or persons living out of their home, state or country, an institution of choice may not be easily accessible. The key economic advantage of distance learning over traditional on-site schooling is that it saves students time from traveling. Web-based instruction, in particular, eliminates regular commutes to colleges and other teaching facilities (Becker 1999).

The ability of educational institutions to supply learning on-demand is also a factor. According to the College Board, “... almost half of all people enrolled in higher education in the United States are participants in part-time classes or training. This is one of the reasons why some of the most prestigious universities in the country including Harvard, Stanford, Duke, Columbia, and The University of Chicago run continuing education programs, or extension schools ...” (Confessore 1999). Many of these programs are generating lucrative revenues for the institutions.

Internet-based education is one recent development in the area of distance education that can break all these barriers. Many traditional programs at universities are facing enrollment problems. There is a window of opportunity to offer non-traditional programs using technology. As a matter of fact, the prestigious universities mentioned earlier are often making “a big profit” (Confessore 1999). The news and forecast for distance delivery programs are encouraging. Companies spent \$100 million on Internet-based training last year and that figure is expected to leap to \$6 billion by 2002 (Bechard 1999). The need for non-traditional delivery and the prospect for lucrative revenues make good business sense for educational institutions to develop and participate in the delivery of distance programs, especially Web-based offerings.

3. STATEMENT OF THE OBJECTIVE

This research project examines Internet-based distance education delivery programs at Historically Black Colleges & Universities (HBCUs) in the United States. Specifically, these HBCU institutions are listed in the Minority On-Line Information Service (MOLIS) database. The variables in this study include factors such as geographical location, accreditation, type and number of courses offered, type and number of degree program offerings, tuition cost, and selected demographic information about those institutions. These information are important to prospective students

because "... many but not all online offerings are accredited, and prospective students have to be cautious in choosing programs and courses" (Chepesiuk; Gorman 1998).

The results of this study should be of interests to administrators at institutions considering Internet-based course delivery programs, faculty members developing Internet courses, and reviewers from accreditation agencies. Human resource managers seeking flexible courses for the professional development of employees, individuals looking for specific distant delivery courses and degree programs, students requiring access to non-traditional educational programs, and the handicapped needing academic programs that can be completed at home will find this study useful.

4. DATA GATHERING

The target population for this research was HBCUs in the United States and its territories. A primary reason for selecting HBCUs for this study is to determine their involvement in online Internet-based delivery programs. Since HBCUs are the primary institutions serving African Americans in this country, the results of this study will provide crucial implication about their use of Internet-based technologies for meeting the needs of their primary constituents. There are 103 HBCUs listed on the most current MOLIS database. All 103 HBCUs were included in this study.

The data was collected using Internet search engines to access the web sites of all 103 HBCUs. Specifically, the following processes were used for gathering the data set:

- Accessing the World Wide Web by using Netscape Navigator.
- A search was performed for institutions listed on the MOLIS database by using the keyword "MOLIS."
- In addition to HBCUs, the MOLIS database included Hispanic Serving Institutions and Native American Tribal Colleges. The category called "Black Ethnic Groups" was selected in order to get full access to the 103 HBCUs.
- Accessing the home page of each university by activating the hyperlink of the selected institution.
- Obtaining the needed data set by navigating through the web site of the selected institution. The data was captured on a spreadsheet. In cases where the information was not available, the available web master for the selected institution was contacted using e-mail. All the available web masters were contacted because all the needed data were not contained in the web sites.

5. METHOD OF ANALYSIS AND PRESENTATION

In order to study the level of HBCUs' involvement in online course delivery and to show the demographic profile of the 103 institutions, the data relating to the

following variables were captured from the web sites of the selected HBCUs:

- Does the university have a web page?
- Does the university offer web-based delivery instructional materials?
- Does the university offer web-based degree program?
- Demographic information about the institution.
- Does the institution indicate any online accreditation information?
- What forms of payment are accepted by the institutions for those online alternatives?

The raw data for the 103 institutions was capture on a spreadsheet. The number of cases in each of the variables was tallied. All percentages were computed by dividing the number of observations in each category by 103. The other percentages were computed by dividing the number of observations in each category by the number of institutions offering online educational material. In this research project, tables were used to present the outcomes of the data gathered. All absolute numbers and percentages were reported in the tables.

6. FINDINGS

Overall, about ninety-five percent of the HBCUs have web addresses that are truly accessible. Five percent of them either do not have a web site or have web addresses that are not truly accessible. The three HBCUs that do not have a web site are Selma University, Arkansas Baptist College, and Shorter College. The two HBCUs that have a web address that is not accessible are Central State University and Texas College.

As can be seen in Table 1, the majority of the thirty-two HBCUs offering some form of web-based delivery alternatives are located primarily in the southeastern part of the United States. Among these HBCUs offering online programs, the southeast states appear to be well represented.

With the exception of the states of Louisiana and Virginia, the other southeastern states have at least two or more HBCUs engaged in some form of online course delivery. Sixty percent of the HBCUs offering some form of online alternatives are located in the southeastern United States. Collectively, only 31 percent of the HBCUs in the United States are actually engaged in online education initiatives.

Table 1. HBCUs Offering Web-based Delivery Programs

Name of HBCU	City	State
Alabama A&M University	Normal	Alabama
Alabama State University	Montgomery	Alabama
Bishop State Community	Mobile	Alabama
Shelton State Community College	Tuscaloosa	Alabama
J.F. Drake State Community College	Huntsville	Alabama
Lawson State Community College	Birmingham	Alabama
Howard University	Washington	District of Columbia
Bethune Cookman College	Daytona Beach	Florida
Florida A&M University	Tallahassee	Florida
Florida Memorial College	Miami	Florida
Fort Valley State College	Fort Valley	Georgia
Morehouse School of Medicine	Atlanta	Georgia
Spelman College	Atlanta	Georgia
Kentucky State University	Frankfort	Kentucky
Grambling State University	Grambling	Louisiana
Morgan State University	Baltimore	Maryland
University of Maryland-Eastern Shore	Princess Anne	Maryland
Hinds Community College	Utica	Mississippi
Elizabeth City State University	Elizabeth City	North Carolina
Fayetteville State University	Fayetteville	North Carolina
N.C. A&T State University	Greensboro	North Carolina
N.C. Central University	Durham	North Carolina
Wilberforce University	Wilberforce	Ohio
Denmark Technical College	Denmark	South Carolina
South Carolina State University	Orangeburg	South Carolina
Fisk University	Nashville	Tennessee
Tennessee State University	Nashville	Tennessee
St. Philip's College	San Antonio	Texas
Wiley College	Marshall	Texas
Hampton University	Hampton	Virginia
Bluefield State University	Bluefield	West Virginia
University of the Virgin Islands	St. Thomas	Virgin Islands

Table 2. Accreditation of HBCUs Offering Web-based Delivery Programs

Agency Name	SACS	NCA	MSA	CSB	Total
Number Online	27	1	1	3	32
Percent Overall	26%	1%	1%	3%	31%
Percent Online	85%	3%	3%	9%	100%

The accreditation agency of the HBCUs that reported involvement in online course alternatives is presented in Table 2. Since most of the HBCUs are located in the southeastern part of the United States, it is not a surprise that the Commission on Colleges of the Southern Association of Colleges and Schools (SACS) is the accrediting body for most of the institutions providing online educational alternatives.

In addition to university-wide accreditation, several HBCUs indicated that they are also members of regional electronic alliances. Lawson State University, Florida A & M University, Grambling State University, Langston University, South Carolina State University and Bluefield State University indicated that they are members of the Southern Regional Electronic Campus (SREC). Kentucky State University also indicated that they are a part of the Kentucky Virtual University System. Hampton University was the only university accredited by SACS to offer online alternatives. Seventy-five percent of the HBCUs offering Web-based course alternatives did not indicate any form of online accreditation information.

Table 3. Types of Web-based Delivery Alternatives by HBCUs

Alternative	Number	Percent Overall	Percent Online
Degree	0	0%	0%
Course	24	23%	75%
Certificate	2	2%	6%
Workshop	0	0%	0%
Unknown	6	6%	19%
Total	32	31%	100%

Table 3 shows the types of academic online alternative provided by HBCUs. There was no full degree program offered by HBCUs. The majority of the thirty-two HBCUs are only offering online courses. Six of the institutions indicated that they are offering Web-based delivery alternatives but did not provide detail information about their involvement.

Table 4. Number of Course Offerings By HBCUs

Courses	Less Than 16	16 Or More	Unknown	Total
Number	16	13	3	32
Percent Overall	15%	13%	3%	31%
Percent Online	50%	41%	9%	100%

Table 4 shows the number of courses offered by the 32 HBCUs. Of the thirty-two HBCUs involved in Web-based course delivery, thirteen of the institutions or 41% are offering at least 16 online courses. Based on that observation and classification, 50% of the HBCUs engaged in online course alternatives has less than 16 Web-based courses. Only 29 HBCUs indicated the number of courses they have online because three of them did not provide a listing of the online courses on their web sites. The 29 HBCUs listed a total of 900 Web-based courses. North Carolina Central listed a total of 248 courses, the most number of Web-based courses offered by an HBCU. The lowest number of online courses was listed by Alabama State University, Shelton Community College, Howard University, and Florida A & M University. These universities listed one course each on their web sites. The course listed by Florida A & M University is related to the Doctor of Pharmacy degree.

Among the various forms of payments that are accepted for online alternatives, credit cards and money orders are the more preferred forms of payment methods. As seen in Table 5, thirty-four percent of the thirty-two HBCUs prefer these forms of payment. The next preferred form of payment is cashiers checks. Fifty-six percent of the HBCUs did not indicate the form of payment on their web sites.

Table 5. Forms of Payment of Online Alternatives

Payment Type	Number	Percent
Personal Funds	7	22%
Cash	6	19%
Credit Card	11	34%
Money Order	11	34%
Cashier Check	8	25%
Certified check	4	13%
Financial Aid	2	6%
Bank Draft	1	3%
Unknown	18	56%

There are three ways used by HBCUs to assess tuition costs. The methods are:

- Cost per course
- Cost per credit
- Cost per certificate program

Of the thirty-two HBCUs, forty-four percent of them indicated an actual tuition cost figure for their Web-based courses. The lowest rate quoted for a course offered online is \$35. Grambling State University is the HBCU that indicated this low tuition fee. The highest rate quoted for an online course is \$243 for residents and \$1183 for non-resident and international students. North Carolina Central University is the institution that indicated this high rate. Elizabeth City State University indicated the lowest per credit cost of \$29 for each college credit. On the other hand, Bluefield State University indicated the highest per credit rate for residents at \$206. For international students, the most expensive per credit rate is provided by North Carolina A&T State University. The tuition rate for foreign students is \$340 per credit. J. F. Drake State Technical College is the only institution that indicated program rates. A certificate program at this institution costs \$885.

7. SUMMARY AND CONCLUSIONS

At a time where computing across the curriculum and excellence in information technology are the competitive forces in advancing almost every sector of the economy, the results of this study are most discouraging. Furthermore, with race-based admission being lifted in many states, there is a need for more HBCUs to participate in online course offerings that can cater to high risk and disadvantaged minorities. From a managerial point of view, the results of this study imply that HBCUs:

- Represent merely an up-and-coming group of institutions in the world of online education. To better reach out to at risk communities that many of these HBCUs serve, it is crucial that their administrators re-examine how they can fill in the gap left behind by the removal of race based admission policies at the more prestigious and predominantly white institutions.
- Among the group of institutions offering online course alternatives, that effort appears to be still in its infancy. Courses are offered using a piece meal approach. There are no formal degree programs. Students taking the courses at those HBCUs still must find ways to get a degree by attending most of their classes on site.
- Among the thirty-two institutions, only three HBCUs are offering an acceptable number and variety of courses online. Universities that desire to begin offering Web-based courses may want to follow the development model used by these three institutions. The institutions are The University of Maryland at Eastern Shore, North Carolina Central University, and J.F. Drake Technical College.
- Only one university is participating in a virtual university system. Alliances in cyberspace are crucial for success. If available, every HBCU may want to join a virtual university system or a regional alliance. These collaborations can lead to joint ventures that

can benefit both the institution and the students. For example, institutions can engage in cross listings and thereby increase their enrollment. Students, on the other hand, may be able to earn a full degree by taking course alternatives that meet the requirements of the virtual system.

- Currently there are three methods of tuition assessment methods used by HBCUs. On top of that, certain universities are still living in the "industrial era" of tuition assessment and are still charging different fees on different students. Cyber-education may require administrators to rethink how fees are assessed because cyberspace has no boundaries. In particular, public institutions have a lot to learn about tuition assessment from their private counterparts.
- Two dominant methods, credit cards and money orders, are used by HBCUs to collect fee payments. Both methods of collection need examination. First, why are universities involved in cyberspace initiatives still using collection methods that fit an on-campus model? These institutions ought to be engaged in electronic funds transfer systems and other electronic payment methods. Second, it is time for universities to invest in secured systems that can protect their students' credit card information that is being captured online. They should not need to come by the cashier's office to pay their fees.
- At the rate HBCUs are being left behind in the delivery of online opportunities to at risk communities, the "Digital Divide" can be expected to broaden. Administrators may want to use the output of this study to educate their Board of Regents, their Council of Higher Education, and their legislature about this problem. Specifically, this study can become the justification for the need to allocate more funds to HBCUs that are often neglected because they are mostly teaching institutions.

This study is significant because it has at least three major contributions. First, the outcomes of this study provided some documentation about the level of HBCU participation in online course delivery programs. Second, this study identified the characteristics of the thirty-two HBCUs offering online course alternatives. Specifically, three HBCUs represent the movers and the shakers in this demographic sector. Third, this study discovered that HBCUs is an up-and coming party to the world of online education. However, most HBCUs have a lot of work to do if they are to accomplish their missions using online technologies to reach at risk minorities and other disadvantaged communities.

Finally, the results of this research should be interpreted with a number of limitations in mind. First, all the data was obtained via the World Wide Web. Information on the web may have been updated. Second, some of the web-masters did not respond to the e-mail request for more information. With the less than optimal proportion of the total e-mail request returned, non-response bias may be a potential problem. However, there is not a

sufficient reason to believe that the information of respondents differs significantly from those of non-respondents. Moreover, great care was taken to assure that the findings in this study were representative of the population studied. Even if bias exists, the conclusions drawn with respect to the population were not compromised.

8. REFERENCES

- Bechard, T., 1999, Training on the Web Helps Tailor Learning. *Business Courier Serving Cincinnati*, 16, p. 35.
- Becker, G. S., December 1999, How the Web is Revolutionizing Learning. *Business Week*, p. 40.
- Bersch, C., 1999, Making the Grade. *Communications News*, 36, p. 18.
- Chepesiuk, R. and M. Gorman, 1998, Internet College: the Virtual Classroom Challenge. *American Libraries*, 29, pp. 52-54.
- Confessore, N., October 1999, The Virtual University. *The New Republic*, p. 26.
- Kappel, T. V., 1998, An overview of Distance Learning. *School Planning and Management*, 37, pp. 10-11.
- Merisotis, J. P. and R. A. Phipps, 1999, What's the Difference? *Change*, 31, pp. 12-16.
- Neal, E., 1999, Distance Education. *National Forum*, 79, pp. 40-44.
- Raham, D. and B. J. Reed, 1997, Going Remote: The Use of Distance Learning, the World Wide Web, and the Internet in Graduate Programs of Public Affairs and Administration. *Public Productivity & Management Review*, 20, pp. 459-474.