

Models for Human Resource Development Online Programs

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Distance learning programs in higher education have grown rapidly in recent years due to the popularity of “online” or “web-based” instruction. However, little research has been conducted on effective online program models within the field of human resource development (HRD). The purpose of this study was to identify and describe program models for online HRD course delivery.

Keywords: Online Programs, Online Models, Web-Based Distance Learning

Advancements in computer technology have had tremendous effects on the world--how we communicate, conduct business, perform research, and even go shopping. By a simple click of a button, transactions can be made in minutes between people thousands of miles apart. Business and industry are using the Internet as a vehicle for advertising their products, offering their services, and broadening their clientele. In the same respect, higher education institutions are now using the Internet to offer courses to students who are located anywhere in the world. Many refer to this form of distance learning as online or web-based education.

The concept of distance learning has been in existence for many years. Through the use of audiotapes, videos, and correspondence, educational institutions have offered courses to students who could not physically attend their classes. Most students who enroll in distance learning courses are over 25 years of age and are characterized as highly motivated, disciplined, and committed (University Continuing Education Association, 1998). Through distance learning, students may take courses to obtain professional certification, continuing education units, or associate, baccalaureate, and graduate degrees.

Current statistics highlight the unprecedented escalation in the number of instructional programs offered through distance learning. For example, both the number of courses taught at a distance by postsecondary institutions and their enrollments nearly doubled between 1994-95 and 1997-98. In just one year, between 1997 and 1998, the growth of distance learning programs in higher education was well over 70% (Lewis, Snow, Farris, Levin, & Greene, 1999). Future projections suggest that this increase will continue because of the popularity of online instruction. The growth in online instructional programs for adults is not confined to higher education. The market for web-based corporate learning is expected to reach \$11.4 billion by 2003, up from \$550 million in 1998 (Moe & Blodgett, 2000).

Distance Learning Models

Distance learning is represented in a variety of educational models. These models are built around the instructional process; presentation of content; interaction with faculty, peers, and resources; practical application, and assessment (Institute for Distance Education, 1997). The most common types of distance learning models are distributed classroom, independent learning, and open learning + class model.

In the *distributed classroom model*, interactive telecommunications technologies extend a classroom-based course from one location to groups of students at one or more other locations. Educational institutions can broadcast face-to-face lectures to “satellite” sites that are strategically located near their students. Learning is synchronous or real-time. Since the satellite sites are equipped to receive and transmit both audio and video, “remote” students are able to participate in the lectures as if they were physically present. The technologies used to support the class sessions include two-way interactive video, one-way video with two-way audio, audio conferencing, or audiographic conferencing. The telephone, postal mail, fax, and a computer (for e-mail and conferencing, access to online resources, and submission of assignments) are used to support out-of-class communication.

The *independent learning model* does not require students to be in a particular place at a particular time. Instead, students are able to access course information, interact and collaborate with faculty and classmates, and submit course assignments from anywhere in the world. Students are given detailed course syllabi and access to faculty. Since there are no face-to-face class sessions, in-class technologies are not required. Technologies to support out-of-class communication include postal mail, voice mail, electronic mail, computer conferencing, and telephone. This model is used by most educational institutions to deliver online instruction.

The *open learning + class model* is a combination of the distributed classroom and independent learning models. Students use printed class materials and media, such as videotapes and CDs while learning at their own

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pace. There's also occasional use of interactive telecommunication technologies for group meetings among all enrolled students. This model uses the same communications technologies as the distributed classroom model.

Purpose of the Study

Given the extraordinary growth of online instructional programs in higher education, it is essential to know what online strategies or models are most effective in delivering Internet-based programs, in particular HRD programs. This is a new area of program development, and little is known about these types of models. Just as educational institutions use distance learning models to offer courses at a distance, what types of online models do they use to deliver Internet-based HRD courses? The goal of this study was to identify and describe existing program models for online HRD course delivery. The research questions that were used to focus this study were:

1. What services and technologies are used to deliver online HRD courses?
2. What program models are used to support HRD online programs?

Methodology

A status study was conducted to obtain information about online HRD programs in higher education institutions and the types of online models they use to deliver their courses. Because of the exploratory nature of the study and the need for timely, cost effective, and easily quantifiable data, a survey design was used to address each research question. A questionnaire was placed on a web site for participants to access. After 2 weeks, non-respondents were sent a follow-up e-mail message reminding them to complete the questionnaire. Telephone calls were made to those who did not respond to the e-mail reminder.

Population

The population selected for this study was higher education institutions in the United States that are associated with the Academy of Human Resource Development (AHRD). AHRD is an international organization comprised of researchers and graduate students who are interested in various aspects of HRD. The 1999-2000 AHRD membership roster, which consisted of 650 members, was used to identify institutions that have HRD courses and programs. From this membership list, the researchers identified a total of 128 educational institutions with connections to AHRD, and 107 of these were U.S. based.

The researchers then visited the department web sites of each institution to determine if they offered web-based HRD courses. A keyword search using terms such as "Internet-based courses", "online", "distance education", and "distance learning" was also performed. If the institution offered Internet-based courses, the researchers performed another query to determine if they offered HRD courses that were 100% online. Results from this search identified 19 AHRD institutions that appeared to offer Internet-based HRD courses. To validate this list of institutions, the 1999, 2000, and 2001 AHRD conference proceedings were also searched using keywords. This search revealed no additional institutions that offered 100% Internet-based courses. Although several strategies were used to identify appropriate institutions, it is still possible that some institutions that offered HRD online programs were overlooked because various search engines were used to browse the university websites.

A contact person (i.e., faculty member or program coordinator) was then identified from the web site for each institution that offered some type of HRD online course. Each of these individuals was then contacted to invite them to participate in the study.

Instrumentation

A web-based questionnaire was used to collect the program data. Prior to developing the questionnaire, the researchers conducted a literature review to determine if any distance learning surveys had been developed that could be adapted to the HRD online status study. From this search, the *Survey of Distance Learning Programs in Higher Education* was identified (Primary Research Group, 1997). Although the survey displayed face validity, it appeared to lack content validity. Several of the items had to be rephrased, while others were deleted due to lack of applicability. After numerous revisions, the questionnaire used for this study bore little resemblance to the original instrument. The final instrument contained 33 questions addressing issues of financing and marketing online courses, online faculty and staff support, online faculty training and compensation, online student support and resources, course development, and technologies used to deliver online courses.

To ensure content validity and clarity, a group of HRD faculty and graduate students participated in a pilot test of the questionnaire. Based on the pilot test results, the questions were revised and the final instrument was placed on a web server for participants to access and complete. Sampling was not required since all North American AHRD institutions with online courses and degree programs were asked to complete the questionnaire.

Data Collection and Analysis

All data were collected online via the Internet. Participants received an e-mail inviting them to participate in the online survey. The response rate was 68.4%. Of the 13 responding institutions, 6 did not offer HRD courses that were 100% web-based and one institution elected not to participate. The six institutions that agreed to participate were then sent an Internet address so they could access the questionnaire. Participants responded to questions by clicking on the appropriate answers or inputting short responses. Once the questionnaire was complete, participants submitted the form and the items were transferred to a database.

Microsoft Access and Excel were used to organize the questionnaire data. The researchers looked for patterns in the data and calculated frequencies and percentages for each response category. An extensive web-site analysis was also conducted for each program that had online HRD courses. This analysis consisted of an examination of the web site for each program and a review of various program characteristics related to the research questions.

Results

Respondents were asked to provide general information about their online HRD programs such as types of programs offered, number of students receiving degrees online, student profiles, typical class size, available faculty and student support services, and technologies used to deliver online instruction. Table 1 provides a listing of the institutions that offer 100% web-based HRD courses and online degrees.

Table 1
Institutions Offering 100% Internet-based HRD Courses and Degrees

Institution	Online Certificates or Degrees
Bowling Green State University	Ph.D. in Technology Management (core courses only)
Indiana State University	M.S. in Human Resource Development M.S. and Ph.D. (core courses only)
University of Illinois at Urbana-Champaign	Ed.M. in Global HRD Certificate in Teaching and Learning
University of Louisville	M.Ed. in Human Resource Education
University of Minnesota	None, courses only
Western Carolina University	None, a few courses offered online

Bowling Green State University

Bowling Green State University offers core courses toward a Doctor of Philosophy in Technology Management via the Internet. The Ph.D. program uses a consortium of institutions to offer core courses to support the online doctorate in technology management. The consortium is comprised of Central Missouri State University, East Carolina University, Texas Southern University, University of Wisconsin-Stout, North Carolina A&T, and Indiana State University, which serves as the lead school.

The program is designed to prepare specialists who have extensive knowledge of scientific and engineering developments, knowledge of the economic and political organizations of the global community, and sensitivity to the ethical and moral issues surrounding technology. Requirements for the Ph.D. include: 15 semester hours of general technology core courses, 12 hours of a major specialization area, 12-18 semester hours of cognate studies, 27-33 semester hours of research, and 6 hours of internship. Courses are designed to provide experiences that address topics in contemporary and future trends of technology. Philosophical dimensions influencing decision making, historical perspective, and implications for technological development, and technical systems are included. HRD online tuition ranges between \$500 and \$599 per course.

Indiana State University (ISU)

Indiana State University offers an online Master's of Science degree in Human Resource Development for Higher Education and Industry degree and core courses toward a Ph.D. in Technology Management. The master's program is designed to prepare professionals for higher education, industry, business, government, and other agencies. It requires a total of 33-36 hours. Upon completion of the program, participants are able to plan, conduct, and manage education, training, and other human resource development activities. The core courses offered for the online Ph.D. program are the same ones offered through the consortium with Bowling Green State University. Currently, over 125 students have completed their degree online, with tuition costs under \$500 per course.

University of Illinois at Urbana-Champaign (UIUC)

The University of Illinois offers an online Master's degree in Global Human Resource Development. The program is designed for individuals currently working in or aspiring to HRD positions in either the private or public sector. It is focused on employee training and development, organization development, and the use of information and technology to improve individual and organizational performance. Emphasis is placed on HRD leadership in both domestic and international settings. Upon completion of 9 units (36 semester hours) of coursework, students are awarded a Master's of Education (Ed. M.) degree. To date, 13 students have completed their degrees and 59 are currently enrolled online. Tuition costs is currently \$1008 per course.

University of Louisville

The Department of Leadership, Foundations, and Human Resource Education at the University of Louisville offers an Internet-based Master's of Education (M.Ed.). This pilot program was developed with a grant from the United States Army. The M.Ed. program focuses on human performance improvement, instructional design, and human resource management. Currently, the only course offered over the Internet is Organizational Analysis. This course examines the processes and techniques used to (1) conduct organizational task and person analyses and (2) identify training needs in a non-school environment. They plan to expand their program to offer the entire degree program online. Students who are enrolled in the online HRE program and are located in the Louisville area are given the option to take the same courses on-campus. The program requires a minimum of 30 credits for completion with a core curriculum of 27 credits. The University of Louisville began offering their HRD course online in the summer of 2001. Tuition costs per course are below \$500.

University of Minnesota

The University of Minnesota's HRD program is one of six faculty groups within the Department of Work, Community, and Family Education. Their HRD program prepares students to become work, community, and family education professionals. Although they do not offer any online degrees or certificates, they have several Internet-based courses. Tuition costs are variable and dependent on whether students reside in state or out-of-state and whether they are part-time or full-time.

Western Carolina University

The Department of Human Resources is part of Western Carolina University's College of Education and Allied Professions. The department's goal is to meet the needs of aspiring and experienced human resource professionals. They offer a Master's degree in Human Resources, where students may specialize in *e-learning*, organization performance, or interdisciplinary human resource studies. A few of the graduate level courses are available over the Internet. Western Carolina University has been offering HRD online courses for more than 3 years. Tuition costs per course are under \$500.

Status of HRD Online Programs

The average online class size at the participating institutions ranged from 7 to 35. Their typical online students were part-time, graduate, and career/professional. When asked to rank the importance of various reasons for offering courses online, the highest ranked reasons were to provide alternatives to traditional and non-traditional students, stay competitive, and serve new markets. One institution's main reason for offering online courses was to model *e-*

learning while another's main reason was "because admin said so." The least likely reason they offered online courses was to reduce impact on college facilities. The primary strategies that participating institutions used to market their HRD online programs were e-mail, listserves, and websites. Persons responsible for marketing their HRD online programs were HRD faculty, directors of graduate studies, and program directors.

Support for Online Faculty and Students

The level of faculty support, faculty incentives, teaching load, and percent of full-time and adjunct faculty varied at each institution. Bowling Green State University does not offer incentives or support services to their faculty; their teaching load for their online courses is the same as their face-to-face courses, and only their full-time faculty teach online. Indiana State University supports faculty with instructional designers, graphic artists, computer assistance, web page development, and online faculty training. Faculty receive additional funding for course development and assessment. The teaching load for online courses is generally lower than the traditional classroom. Of their online faculty, 90% are full-time while 10% are adjunct.

The University of Illinois provides their faculty with instructional designers, programming, and multimedia assistance as needed. Only one of their online instructors is adjunct. Online and face-to-face courses are considered equivalent when determining teaching load. Illinois faculty are given a one-course release during the semester they develop a new online course, and they are provided with a half-time teaching assistant each semester the course is offered.

The University of Louisville has a teaching and learning center that provides faculty support for their online program. They also provide their online faculty with training in the use of Blackboard™ software. The teaching load for their online courses is higher than the traditional face-to-face courses. However, both online and face-to-face courses are considered the same when determining teaching load. As an incentive, faculty are given a semester of release time to develop their courses. Their entire online faculty are full-time.

Western Carolina University does not offer incentives nor support services to their faculty, and new online faculty are not required to undergo formal training prior to teaching their online course. The teaching load for their HRD online courses is equivalent to a face-to-face course. In the same respect, an online course counts the same as a face-to-face course in determining teaching load.

Unlike the other institutions, online courses at the University of Minnesota are developed by outside contractors with minimal input from their faculty. Faculty receive no incentives for teaching online. Since course development is outsourced, the teaching load for online courses is generally lower than the face-to-face courses. As a result, the online and face-to-face courses do not count the same when determining teaching load. Their entire online faculty are adjunct.

The types of student support and services varied for each institution. With the exception of Bowling Green State University and the University of Minnesota, each participating institution offered some type of orientation to acclimate students to their online system. Indiana State University sends their online students a CD that contains instructions and a self-guided tour. The University of Illinois offers online training that requires students to practice using the course technologies by installing software, submitting documents, and verifying that they can receive streamed audio and video. The University of Louisville's student orientation consists of a review of technical requirements. Western Carolina University offers to their online students software training and tutoring on how to be an online student.

The Internet services that the institutions provide to their students also varied. All participating schools provided their students with an online library database and catalog. Most schools also provided online advising, course catalogs, e-mail access requests, grades, and registration. Table 2 gives a summary of all Internet services offered by each institution.

Online Course Development and Technologies

With the exception of the University of Minnesota, regular faculty design online HRD courses. Courses at the University of Minnesota are developed by outside contractors with minimal input from their faculty. At the University of Illinois, graduate students are also involved in course development. When asked how much of the total online program costs are attributed to course development, both Bowling Green State University and Indiana State University indicated less than 10%. Western Carolina University attributed 11% to 30% of their HRD online program costs to course development. The University of Illinois indicated that 31% to 50% of their costs are attributed to course development. Development costs were reported to be greater than 50% at the University of Louisville and the University of Minnesota.

Table 2
Student Internet Services Provided by the Institutions

	Advising	Bookstore	Career Planning	Course Catalog	E-mail access requests	Financial aid	Grades	Library (online catalog)	Payment	Registration	Study groups	Timetable	Transcripts	Tutoring
Bowling Green State University	x			x	x	x	x	x				x		
Indiana State University	x	x	x	x	x		x	x		x	x			x
University of Illinois	x	x		x	x		x	x	x	x	x	x	x	
University of Louisville								x		x				
University of Minnesota	x	x		x	x	x	x	x	x	x			x	
Western Carolina University	x			x	x	x	x	x					x	

The variety of technologies used to deliver online HRD courses includes audio conferencing, audio lectures (asynchronous and synchronous), chat rooms, e-mail correspondence, discussion conferencing (e.g., Web Board), video conferencing (synchronous), and video lectures (asynchronous). All participating institutions utilize chat rooms, e-mail, and discussion conferencing. Asynchronous audio lectures are used by half of the institutions. Table 3 details the technologies used by each institution.

Bowling Green State University anticipates an increase in the use of audio conferencing and discussion board technologies. Indiana State University plans to use more audio lectures, chat rooms, video conferencing, and video lectures. The University of Illinois intends to make greater use of video conferencing and video lectures. The University of Louisville indicated that they plan to make greater use of all available technologies. The University of Minnesota and Western Carolina University do not anticipate changing the technologies they are currently using to deliver online instruction.

Table 3
Online Course Technologies Used

	Audio conferencing	Audio lectures (asynchronous)	Audio lectures (synchronous)	Chat rooms	E-mail correspondence	Discussion conferences	Video conferencing (synchronous)	Video lectures (asynchronous)
Bowling Green State University				x	x	x		
Indiana State University	x	x		x	x	x		x
University of Illinois		x	x	x	x	x		x
University of Louisville		x		x	x	x		
University of Minnesota				x	x	x		
Western Carolina University				x	X	x		x

Online Models

Three models, the contractor model, the consortium model, and the independent program model, best characterize the HRD online programs presented in this paper. In the *contractor model*, courses are designed and developed by an outside contractor. This model is ideal for institutions that may not have the expertise to develop and deliver the online courses, technical support to maintain the courses, or the time to convert their face-to-face material to an online format. The University of Minnesota uses this model to deliver their online courses.

The *consortium model* involves a collaboration of universities where faculty from participating institutions deliver one or more online courses rather than an entire degree program. This model is useful for institutions that may not have enough faculty to teach online. The Ph.D. program offered at Bowling Green State University and Indiana State University is part of a consortium degree program, where Indiana State University serves as the home school. Other consortium members include Central Missouri State University, East Carolina University, Texas Southern University, University of Wisconsin-Stout, and North Carolina A&T.

Within the *independent program model*, institutions take full responsibility for the development and implementation of their online program. This model is ideal for institutions that want to have full control over the online program's structure, policies, and technologies. This model is also ideal for academic units that have the technological capacity to develop and support technical solutions for course development and delivery. For example, this model works well for the University of Illinois because its many doctoral students who are specializing in the field of instructional technologies are able to support the program and develop their technology skills through graduate teaching and research assistantships. The University of Illinois and the University of Louisville used the independent program model to develop their online program.

Discussion

This study introduced three models that can be used to deliver Internet-based HRD programs—the contractor model, consortium model, and independent course model. The contractor model includes courses that are offered by educational institutions but designed and developed by an outside contractor. The consortium model involves a collaboration of universities that are responsible for teaching one or more courses within a degree or certification program. Within the independent program model, the department assumes full responsibility for the entire online program.

At the onset of this study, over 107 North American AHRD institutions were identified as potentially offering HRD courses online. Of these 107 institutions, only 6 are offering web-based courses that are 100% online. Why are so few institutions offering HRD courses online? There are several plausible reasons for this; however, some main issues could be (1) the need for considerable technical support and expertise, (2) the initial startup cost, (3) the need to train faculty to teach online effectively, and (4) the enormous time commitment that is needed by the developers of online courses.

With these concerns, the authors offer some recommendations. For institutions lacking the technical support and expertise to develop online courses, one plausible solution is to outsource these services. This is the direction the University of Minnesota took by offering their online courses through outside contractors. Another solution might be for institutions to develop one online course per semester using the most basic, cost effective, and easy-to-use technologies. These technologies could include chat rooms, e-mail, discussion conferencing, and asynchronous audio lectures. The University of Louisville is an example of an institution that has taken this approach when they began offering one course during the summer of 2001. The idea behind this strategy is for institutions to start small until they gain more online experience.

If funding is a concern, organizations such as the Alfred P. Sloan Foundation (www.sloan.org) provide program development grants to universities to develop new online courses. These awards are intended to cover the one-time costs of converting existing course materials to a pedagogically sound online format. The Department of Human Resource Education at the University of Illinois converted their regular courses to an online format with financial support from the Sloan Foundation.

Institutions that do not have the faculty or staff to teach online courses may consider joining a teaching consortium as was done by Bowling Green State University and Indiana State University. Within the consortium, faculty from participating institutions deliver one or more online courses rather than an entire degree program. This arrangement “lifts the burden” off one institution so that it can be shared among many.

Time commitment is another barrier that may prevent institutions from offering online courses. Institutions may not have the time to develop the courses and at the same time may not have sufficient faculty to teach the courses. There are several solutions to this problem, many of which have already been addressed. Institutions could

outsource course development (University of Minnesota), they could become part of a consortium (Bowling Green State University and Indiana State University), or they could bring in adjunct faculty from other related departments to teach the online courses (Indiana State University, University of Illinois, University of Minnesota).

Rather than focusing on disadvantages to offering online courses, it is essential that institutions consider the benefits of offering Internet-based courses. One main advantage to offering Internet-based courses is that it allows institutions to reach other markets they would not have been able to reach otherwise. This includes the international population, working professionals, and single heads of households. Another advantage is that it increases institutional prestige. By offering online courses, institutions can serve as models for others seeking to offer similar Internet-based courses. As a result, popularity increases and ultimately the student population increases (online as well as face-to-face).

Future Research Implications

Technology is rapidly changing and is impacting the way institutions deliver Internet-based courses. Online technologies used today differ from the technologies used five or more years ago. Moreover, institutions that have offered online programs for a while are familiar with the various technologies and are able to offer more “online amenities” to their students. For example, the University of Louisville, who recently began offering Internet-based HRD courses, provides their online students with a limited number of online services. In contrast, Indiana State University, where over 125 students have completed their degree online, provides their students with numerous services online. A research study could be conducted to compare HRD online programs that have been offered less than a year, 3 years, and 5 or more years. An interesting research question would be: How does the structure and format of an online program change over time?

The results of this study also indicate that institutions vary in their use of online course technologies. Future studies should investigate the reasons why some online course technologies were chosen over others (i.e., the advantages and disadvantages of using various online technologies). Some possible research questions could be:

1. How do training requirements differ for each course technology?
2. Which technologies promote greater student-to-faculty and student-to-student interaction?
3. Which technologies best enhance student learning?

The University of Illinois utilizes synchronous audio lectures in their online courses. Another interesting research study could determine if synchronous sessions are worthwhile. Factors such as student questioning, student-student interaction, and student-faculty interaction could be compared between synchronous and non-synchronous audio modules. Some possible research questions would include:

1. How satisfied are faculty and students with the synchronous lectures?
2. Do student-faculty and student-to-student interactions increase in the synchronous lectures?
3. What factors promote quality synchronous interaction?

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