Paper: I

Design for Library and Information Science program in E-Learning Environment

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Abstract

Internet is fast becoming an engine of innovation in education. Digital learning, digital content, online tutorial, examination and assessment, distance learning etc. are getting more popular day by day. Those concepts are throwing challenges to the traditional delivery of instruction and training in the changing age of globalization and e-resources. The Internet or indeed ICT and all its interactive elements are able to have an extremely positive impact to the learning potential of students as well as teachers. An effective e-learning strategy may be more than the technology itself and the content it carries. It must also focus on critical success factors that include building a learning culture, encouraging true leadership support, and sustaining the change throughout the organization. This paper is an attempt to provide an idea to build up a model program for LIS course in ICT environment.

1. Introduction

Today's careers are more demanding than ever. What is cutting edge today may well be obsolete tomorrow. Professional development and job skills training have become a normal part of most people's careers. But, how do you find the time to perform the duties and obligations associated with your job when you are trying to stay on top of your skills with ongoing training and other professional development activities? There is a solution. Organizations are discovering the advantages of e-learning to meet these demands. In our school days we used to write by ink pen but when we enter in college we find ink pen become obsolete and ballpoint pen had been introduced making the whole writing process easier, cleaner, and certainly less prone to accidents. A similar situation occurred when calculators were introduced and in the early 80s, microcomputers were just making our lives easier. Just as the transition away from ink pens, slide rules, and handwriting caused a change in behavior on our part, so does the use of the Web as a scholarly resource for information, teaching, training and learning.

2. What is E-learning-?

1. Learning facilitated and supported through the use of information and communications technology (1).
2. Education offered using electronic delivery methods such as CD-ROMs, video conferencing, websites and e-mail. Often used in distance-learning programmes (2)
3. Learning that is accomplished over the Internet, a computer network, via CD-ROM, interactive TV, or satellite broadcast (3).

Therefore, following above three definitions we can easily get an idea about e-learning. In general, we can say that the term e-learning used to describe education and training supported and delivered through online networks or Internet and all its components.

3. Why E-learning?

- One doesn't need to travel anywhere to get online degree. Learn from leading companies and experts right at home or at work.
- Proven and Certified - It become proven and certified by many leading universities, educational board and many multinational companies. Microsoft approved courseware - e-learning prepares you for Microsoft certifications. (4)
- Easy to Use - One only need an internet browser; HTML based and designed to load quick and get him learning fast; tested and proven online training designs with step by step, easy walk through.
- Great return on one's investment - Online training is cheaper than any formal courses, e-learning is cost effective and easy on one's pocketbook. One can get access to a large library of online resources free of cost or very nominal charges.
- Interactive - simulations have learners do what they are learning which leads to greater retention of covered material; accommodates different learning styles through audio, visual graphics, testing and printable exercises.
- Self Directed and Convenient- It gives lots of flexibility to learn by own choice. He can focus on his needs and where, when and how he wants with unlimited access 24 hours/day, 7 days/week.
- Complete lessons – Students can learn subjects in depth – most of the time course includes built in notes, tips, quick references, detail links, and simulations; with exercises and practice files that increase your retention, up your level of involvement and keep the material fresh.
- Pre and post skill assessments measure your progress – most of the cases assessments can be used before, mid-way, or after taking the course. First try, best try and online course grade are tracked
- Cross platform - online education is accessible by Windows, Mac and UNIX users.

4. E-learning in LIS

Like many universities in the world we the library professionals in India can also think about online course of Library and Information Science. Though one of its kind is already implemented by many Open Universities and few universities as distance learning but there are some elementary differences between online courses with that of distance learning or Open University courses.

In e-learning environment the course content and learning objects are fully interactive and as same as classroom teaching. Difference is that, e-learning environment classrooms are virtual and are accessible at anytime of the day.

E-learning is:
- Augmenting traditional textbook materials with online resources and content portals
- Enhancing customary "chalk-and-talk" lectures through the use of rich multimedia and interactive content
- Providing students with Web-based tutoring on demand
- Allowing learners to access their course work from multiple locations, including the home, rather than solely on school grounds

The above concepts inspired to design a model online course for Library and Information Science. The intension is to design the course not the degree. The mode of degree can be decided by the authority. This paper is intended to provide a prototype course for Library and Information Science followed by the study of online course running by five famous Universities in US *(See Annexure I)*.
- Indiana University-Purdue University, Indianpolis
- Indiana State University
- Southern Connecticut State University
- Drexel University
- University of Illinois

Each University offered the online course as per its policy and looking present market demand. So before design the course we also need to keep in mind the market needs; tentative students' background; quality of teacher and placement.

By looking at the present changing scenario of library field, we need to design a modern syllabus for Library and Information Science. The syllabus has been outlined as follows:

Paper 1: Library Science Fundamentals: It may include history and development of library; library documents; preservation and maintenance; landmark; design & structure and statistics of some famous libraries in the world from ancient to latest; and introduction of various library tools.

Paper 2: Library Technical Processing: It may include acquisitions classification; cataloguing; indexing; abstracting; serials control, circulation, and preservation; with primary focus on modern printed materials, but also includes reference to other media. Instruction on critical reading, interpretation, and use of current professional standards and documentation for the creation of MARC records.

Paper 3: Collection Development: It may include basic steps of collection development, including community analysis, preparation of policy, criteria for selection of materials, acquisition, weeding and evaluation. It should explore a variety of related issues, including the impact of electronic access on collection development.

Paper 4: Managing Information Organization: Applies theories and techniques of management to libraries, information centers, and information enterprise, concentrating on leadership, communication, human resources, organizational structure, decision making, planning, and control. Also includes elements of project management.

Paper 5: Database Management: Covers database design, data manipulation, and database integrity.

Paper 6: Information Architecture & Retrieval Systems: Introduced with fundamental concepts, methods and theories in Information Architecture for virtual, physical, and hybrid worlds. Topics include foundations, web design, cognitive aspects, search, interaction design, knowledge organization, and user experience. Focuses on computer applications to document representation and indexing, as well as the storage, retrieval, and distribution of digital information.

Paper 7: Network Information Systems & Library automation: This course provides an introduction to various types of equipment for handling information and providing services in libraries; study of applications to library operations; and introduction to systems planning, automation concepts, and computer use. It also includes systems, issues and changes in: interpersonal, group, and mass communication; publishing; information access; education, and other areas. Hands-on use and evaluation of currently available network- based communication and retrieval systems.

Paper 8: Content Management: Explores current issues in content representation: principles of subject analysis; natural language vs. vocabulary control; manual, computer-assisted, and automatic indexing; faceted indexing and classification systems; image indexing and retrieval; indexing and website design, implementation, and evaluation.

Paper 9: Information Resources Services and Customer care: Focuses on the design and structure of tools used for answering questions and satisfying subject interests for clienteles. Emphasis given on conceptual structures of library and information science: literature-producing communities, the process of publication, publishing on the Internet, subject domains and form classes, systems for physical and intellectual access to literatures, problems of bibliographic control, and social and psychological factors affecting use of information services. Develops practical skills in creating resources such as abstracts, subject indexing, literature reviews, bibliographies, and websites.

Paper 10: Digital Library & Library Software: Topics include foundations and architectures of digital libraries, searching and resource organizing,

knowledge representation and discovery, metadata and standards, interfaces and information visualization, intellectual property rights, and electronic publishing. It also includes the design and development library automation software and introduction to the available commercial library management packages.

Elective Subjects (any one or two)

Paper 1: Government Publications: Aims to acquaint students with government publications, their variety, interest, value, acquisition, and bibliographic control and to develop proficiency in their reference and research use; considers publications of all types and all governments (local, national, international).

Paper 2: Libraries Info and Society: Analyzes specific situations that reflect the professional agenda of these fields, including intellectual freedom, community service, professional ethics, social responsibilities, intellectual property, literacy, historical and international models, the socio-cultural role of libraries and information agencies and professionalism in general, focusing in particular on the interrelationships among these issues.

Paper 3: Library Research Methods: Students learn how to use the print and electronic tools that provide access to information. Students learn how to plan an effective research strategy and find books, journal articles, data, Internet resources, and other sources of information related to typical academic assignments.

Paper 4: Competitive Intelligence: Focuses on the analysis of existing information in order to uncover hidden knowledge about the environment internal and external to (or competing with) an organization. Examines how to analyze and integrate various types of information (patents, financial, production, market); how to use the new knowledge in strategic, tactical and operational decision making; how to produce reports; and the ethics of competitive intelligence.

Paper 5: Information and Society: Surveys the professional, social, ethical, and legal issues that affect information service professionals and

organizations. Addresses such topics as information law, access, ownership, and censorship, studies of professional organizations and the sociology of professions.

Paper 6: Human Computer Interaction: Focuses on the design and evaluation of human-computer interfaces covering such topics as task analysis techniques for gathering design information, iterative design through prototyping, and formative and summative usability testing; theoretical foundations of HCI and cognitive modeling of user interactions; the integration of HCI techniques into the software development life cycle and the use of user constraints to generate new interaction designs.

Paper 7: Grant Methods for Educators and Librarians: Its emphasis is to develop the skills necessary to identify potential and relevant grant founders, develop grant projects to address demonstrable areas of need, and write high quality grant proposals.

Paper 8: Information Architecture for the Web: Focuses on planning, designing, developing, managing, and evaluating web resources. Learners evaluate the content and technical aspects of existing informational, instructional, and promotional websites designed for libraries, schools, museums, and other organizations. Issues such as web accessibility, website management, and copyright will also be discussed.

Each subjects discussed above can be divided by several units as explained and there should be online evaluation method of each units. Broadly, each subject may provide four to six weeks to study and then students have to face the online evaluation. The marks may be stored into the database and at the end of the course total marks may be calculated by tallying all unit marks.

5. Evaluation

Evaluation can be divided by two parts as before accept the course and after taking the course. Once students take the online registration for the course then evaluation method will depends on the question set by the trainer. But,

the student himself before registration should judge whether the course is useful and effective. Each course should have a built-in database for exam questions. Instructors load the questions into the database then create exams and quizzes based on them. The exams and questions can be edited, deleted, and re-used anytime for a quick feature rich online examination system.

The questions should have following features:
- Questions can be multiple choice, true/false, short answer and essay.
- Exams can be timed or have no limit for taking up them.
- The system can automatically create exams by randomly choosing questions from the database.
- The system will randomly order the questions for each student.
- Exams can be turned on or off and have a date range for each exam.
- Multiple choice, true/false, and short answer questions are automatically graded.
- Students get instant results on automatically graded exams.
- Students and instructors get instant results via e-mail.
- Allow students to retake exams.
- Automatically generates a numbered certificate of completion on successfully passing an exam. You customize the certificate.
- The instructor can "manually" grade an exam if necessary.
- Exams are taken through the browser and requires no downloads or plugins.

6. Conclusion

By looking today's changing needs and demands of this profession this is time to think seriously about the new syllabus for Library and Information Science. Simultaneously e-learning is now the global scenario and we should not avoid that. It is very hard to design a new course and new training system but not impossible. Lots of issues and challenges are involved with this task but as soon as we put forward we will overcome all those problems. The first and foremost need is to find quality trainer with sound knowledge of computer language and program. We can collaborate

with other departments and universities also to build a successful e-learning course for Library and Information Science.

7. References

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Indiana State University (Visit: *http://eduscapes.com/iupui/*)

CIMT 306	Foundations of Libraries and Librarianship
CIMT 509	Selection of Library Materials
CIMT 512	Literature for Young People
CIMT 513	Topics in School and Public Libraries
CIMT 522	Introduction to Cataloging and Classification
CIMT 631	Reference Sources and Services for Library Media
CIMT 543	Production of Instructional Materials
CIMT 656	School and Public Library Administration
CIMT 659	Practicum in Library Media

Indiana University-Purdue University, Indianpolis
(Visit: *http://www.indstate.edu/distance/*)

L551: Information Inquiry for Teachers—
L552: Audio & Video Information Sources & Delivery
L553: The School Library Media Specialist
L571: Information Architecture for the Web
L595: Electronic Materials for Children & Young Adults
L595 Grant Methods for Educators and Librarians
L595: Technology-Rich Learning
L620: Resources & Technologies for Patrons with Special Needs

Southern Connecticut State University
(Visit: *http://so-mako.sysoff.ctstateu.edu/put/ocsu.nsf/2fa0fb6cd74e3cc585256b74004945ee/c4107f22e8b0384685256b8400692ca2?OpenDocument*)
ILS 501 - Introduction to Information Science and Technology
ILS 503 - Foundations of Librarianship
ILS 504 - Reference and Information Resources and Services
ILS 506 - Information Analysis and Organization
ILS 680 - Evaluation and Research

Drexel University
(Visit:
http://www.drexel.com/Fields_of_Study/information_sciences/MDI/curriculum.shtml)
INFO 503 — Introduction to Information Systems Analysis
INFO 510 — Information Resources and Services I
INFO 511 — Information Resources and Services II
INFO 515 — ACTION RESEARCH
INFO 520 —Professional and Social Aspects of Information Services
INFO 640 — Managing Information Organizations
INFO 605 — Database Management I
INFO 608 — Human Computer Interaction
INFO 614 — Distributed Computing and Networking
INFO 622 — Content Representation

INFO 652 — Internet Information Resource Design
INFO 660 — Cataloging and Classification I
INFO 665 — Collection Development
INFO 677 — Resources in Business
INFO 643 — Information Services in Organizations
INFO 678 — Competitive Intelligence
INFO 624 — Information Retrieval Systems
INFO 653 — Digital Library
INFO 658 — Information Architecture
INFO 663 — Technical Processes in Libraries
INFO 664 — Library Automation
INFO 674 — Resources in Science and Technology
INFO 675 — Medical Bibliography

University of Illinois
(Visit: *http://www.online.uillinois.edu/catalog/CourseResults.asp*)
UNI 401 - Library Research Methods
LIS 404 LE - Library Materials for Young Adults
LIS 409 LE – Storytelling
LIS 451 LE - Introduction to Network Information Systems
LIS 454 LE - Using Networked Information Systems
LIS 458 LE - Instruction and Assistance Systems
LIS 490 ARL - Designing Universally Accessible WWW Resources
LIS 502 LEA - Libraries Info and Society
LIS 504 LE - Reference and Info Services
LIS 505 LE - Administration and Management of Libraries and Information Centers
LIS 507 LE - Cataloging and Classification I
LIS 510 LE - Adult Public Services
LIS 522 LE - Science Information Sources and Reference Services
LIS 525 LE - Government Publications
LIS 530 BLE - Info Needs of Part Communities
LIS 577 LE - Cataloging and Classification II