

The emerging role of digital libraries in e-learning: A review of opportunities and challenges facing Kenyan universities

Joseph M Kavulya
Catholic University of Eastern Africa
P.O Box 62157-00200
Nairobi
Email: jkavulya@cuea.edu

1

Purpose of the paper

- To discuss the potential complementary interaction between library environments and e-learning environments to create more productive experiences for the learners.
- To explore strategic and technological issues in creating digital library systems for seamless access to academic information resources in e-learning environment

2

Outline of the paper

- Background to the topic
- Definitions of both e-learning and digital libraries
- Advantages of E-learning
- Role of Digital libraries in e-learning environments
- Conceptual, technological and strategic creating digital libraries
- Conclusion and recommendations

3

Background to the Discussion

- In the recent past e-learning has emerged as the new frontier in the provision of cost effective and innovative learning opportunities to meet the increasing demand for higher education (McLean, and Sander, 2003).
- Institutions globally have put their teaching and learning activities onto electronic platform thus introducing virtual learning environments e.g. Strathmore, USIU and Kenyatta universities in Kenya
- With the emergence of e-learning, digital libraries are viewed as appropriate means to provide the supporting teaching and learning information services

4

Background to the Discussion

There is general agreement that: well designed e-learning system should:

1. Organize related course materials so that students' interaction with the materials are meaningful, and effective
2. Should facilitate seamless access to supporting library and information resources (He, Mao, and Peng: 2004).

However analysis of the most of the current LMS reveals lack links with library systems therefore:

- i. Students have to logout of the learning management system to pursue information resources held in the library
- ii. Lecturers have to obtain *html* or *pdf* documents for mounting within the e-learning platforms.

5

Background to the Discussion

In practice students, lecturers, librarians and ICT people are interested in seamless access to all the resources related to e-learning e.g.

1. Lecturers are interested in a seamless link from the course management system to a specific library e-reserve article, or adding links repositories for students.
2. Student wish to gain easy access to various learning and information resources across the university and other external sources
3. IT people wish to provide a single login point to all staff and students for seamless access to all university systems,

6

Background to the Discussion

- This scenario underlines a need for the next generation e-learning management systems to provide seamless access to library learning resources that support the learning process.
 - This paper will discuss
1. The need and importance of e-learning and the role of digital libraries in supporting the e-learning process.
 2. Strategic and technological issues involved in creating digital library systems that facilitate seamless access to relevant academic information resources in e-learning environments

7

What is e-learning?

E-learning has been defined in a number of ways to illustrate different perspectives

Working definition: Any kind of learning supported with the aid of information and communication technology (ICT) or e-media: not only the Internet, but also more traditional media as video, television, radio, telephone, satellite, and CD-ROM.

- Encompasses research and teaching in digital environments
- Includes courses that are offered fully online, courses that mix face-to-face and online access to instruction and course materials and courses in which instructors post notes materials for students or provide access to online discussion forums on course topics

8

What is e-learning?

The motivation behind the growth of e-learning : The switch to the '**constructivist**' approach to education characterized by features such as:

- Empowering the learner, for example, in searching for additional course content online
- Moving focus from lecturing and memorisation to performance examinations in "real life" situations
- The focus on promoting generative learning rather than the passive reception of learning in students (Bonk, 2004; Joint, 2005).

9

Advantages of E-learning

- Accommodates different learning styles and fosters learning through a variety of activities
- Fosters self-paced learning
- Convenient for students to access any time, any place;
- Encourages students to take responsibility for their own learning
- Permits instructors to develop materials using the world-wide resources of the Web;
- Is convenient for instructors to access any time, any place;
- Allows instructors to package essential information for all students to access;
- Retains records of discussion: (Broadbent, 2000; Bates, T. and Bartolic-Zlomiscic, 2000). Wang, , 2003; Sharifabadi, 2006).

10

What are digital libraries?

Different communities (i.e., computer scientists, library and information scientists, and corporations) involved in digital library efforts and generate varied DL theories, models and projects.

- Therefore digital library field contains many different perspectives of what the digital libraries are.
- Working definition: A collection of digital objects and a set of associated techniques and services that help to collect, organize, retrieve, and preserve those digital objects for a community of users (Borgman, 1999; 2000).

11

What are digital libraries?

Therefore, with digital libraries, an individual can:

- Gain bibliographic access to physical books, digital media and journals and other holdings of libraries worldwide through automated catalogs.
- Access full text articles and journal databases purchased by the library and those available through open access journals
- Access special collections such as institutional repositories (E-theses, seminar papers)
- Save search results for future use (Sun Microsystems, 2002).

12

The role of digital libraries in e-learning environments

Library and information services are integral to academia as primary knowledge resource for both teaching and research (Carl E-Learning Working Group, 200)

As e-learning is gaining influence, the role of libraries in the models of practice remain unacknowledged with a potential loss of quality of the academic experience of researchers, teachers and students

With the increasing significance of e-learning, digital library plays a critical role in its success. E-learning is facing a number of issues which can be viewed as pedagogic, economic, organizational change and quality issues. The establishment of digital libraries as part of the solution to these persistent issues.

13

The role of digital libraries

1. Pedagogical role

- E-learning embodies a change to social 'constructivism' with a greater student responsibility and the role of the teacher shifting to that of a guide.
- E-learning is based on self-motivated discovery on the part of students which presumes the existence of large collections of information resources that provide a variety of ideas and diverse viewpoints to the student
- Through DL students have access to enriched interactive digital multimedia resources
- Information literacy skills are introduced. They therefore provide more possibilities for more effective interaction with learning resources.

14

The role of digital libraries

2. Economic value

- E-learning is faced with the challenge of addressing global learning markets.
- Digital libraries assist institutions to reach new even global markets and new generation of learners with the value added learning information resources
- Digital libraries engender a new relationship between universities, authors, publishers and librarians which can effectively respond to the new market orientation (Mamluk and Jain, 2006).

15

The role of digital libraries

3. The need for organizational change

- E-learning faces changes into the educational settings, away from traditional lectures towards virtual learning environments,
- Students want a one-stop shop, one learning portal, where they may find all resources and support for their learning activities.
- Digital libraries facilitate access while at the same time addressing copyright issues when it comes to use electronic material from the library in e-learning settings
- Digital libraries mediate partnerships in the virtual learning environments composed of an evolving virtual learning community

16

The role of digital libraries

4. Promoting quality in e-learning outcomes

Quality is one of the most important issues nowadays in e-learning. Concerns include the quality of learning materials and accreditation of e-learning programs (Garret, 2002).

A linkage can be demonstrated between such an investment in library and information resources and improvement in quality, efficiency and achievement in university education (Carl E-Learning Working Group, 2004).

Therefore the digital library is an instrument of education contributing to the intellectual development of the student.

17

The role of digital libraries

Key advantages in e-learning context

- The doors of the digital library never close; digital libraries are available on 24/07 basis from anywhere in the world,
- In digital libraries it is easy to keep academic information resources current e.g. Encyclopaedia, .
- Digital libraries can be widespread and accessed as full text from any location or work station. Digital information can easily be shared and therefore is available to everybody.
- New forms of information become available on several subjects from a variety of sources in multimedia formats e.g. models, simulations

18

Integrating Digital Libraries in e-learning: Key issues

1. The need to create of digital collection and institutional repositories

- Purchase native digital content such as e-books, e-journals and e-databases.
- Creation of institutional repositories to capture and preserve the intellectual output of the university community such as research reports, theses, course notes, and seminar proceedings

19

Integrating Digital Libraries in e-learning: Key issues

2. Developing digital library services

- The e-library could support e-learning courses with a bundle of networked e-information services e.g.
 - Developing a special portal for course-related learning objects that are retrieved from the library digital collections (e.g. e-journals, textual databases, open access, etc.)
 - Virtual reference service to answer the information needs of the e-learners (i.e. e-learning liaison librarian),
 - Providing e-literacy sessions to help e-learners in scholarly use of the web and distributed e-resources

20

Integrating Digital Libraries in e-learning: Key issues

3. Preservation and digital archiving

In the facing of constant changes in hardware and software and proliferation of vast amounts of data

The key objectives are:

- To maintain the repository without being damaged, lost or maliciously altered,
- To ensure that data can be, extracted and served to the user

21

Integrating Digital Libraries in e-learning: Key issues

4. Copyright and rights management

• There exists weak regulatory framework in the country region and the unclear global copyright law on digital information.

• There is need for changes in the current copyright law to protect the interests of owners of intellectual property but facilitate efficient user access to digital items

22

Integrating Digital Libraries in e-learning: Key issues

5. Information literacy skills and digital librarian competencies

- To ensure that digital libraries are fully utilized, there is, need to develop digital information literacy programmes for learning and education as a lifelong process
- Information professionals should be grounded in ICT related competencies e.g. hardware and software skills, web design, internet searching and evaluation of electronic information.

23

Integrating Digital Libraries in e-learning: Key issues

6. Provision of digital library infrastructure

- Financial resources need to be invested in digitilisation equipment, and computer servers, developing information retrieval capabilities via network infrastructure,
- There is need for metasearch engines which are capable of simultaneously searching multiple systems, aggregating retrieved metadata

24

Integrating Digital Libraries in e-learning: Key issues

7. The need for collaborative efforts

- The library communities are largely unfamiliar with the e-learning. In turn those implementing e-learning programmes are often unaware of relevant work happening in library automation, digital libraries and related areas
- Need close collaboration among computer scientists, IT managers, librarians, faculty members and administrators of e-learning initiatives.

25

Integrating Digital Libraries In e-learning: Key issues

8. The need for a national digital library strategy and framework

There is need for a government-backed national digital library strategy focused on advancing the means to **collect, store and organizing information in digital forms and make it available for searching and retrieval and research into various issues relating digital libraries such infrastructure.**

- A lead organization such as the KENET, should be identified or a consortium of stakeholders should be formed to spearhead the creation of a national digital library
- This includes developing library and information service policies, developing viable library and information and communication infrastructure, and legislating on issues

26

Conclusion and recommendations

- i. Digital libraries should be integrated into a seamless network of e-learning content management systems.
- ii. There technical, policy and strategic issues that need to be addressed if digital libraries are to be effectively integrated in e-learning environments:
 - Creation e-content that is relevant to higher learning
 - Addressing copyright and intellectual rights issues,
 - Develop and deploy industry standards to promote systems interoperability
 - The provision of digital library infrastructure
 - Promote information literacy skills and digital librarian competencies.
 - Engagement in collaborative efforts and a national digital library strategy and framework.

27

Thank you for your attention!

Have a good afternoon!!

28