EDUCATION FOR DIGITAL LIBRARIES IN ASIAN COUNTRIES

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Abstract.

This paper looks at the state of education in digital libraries in Asian countries. Academic programs offered at the post graduate level by the Department of Library and Information Science or other Departments which can be categorized as similar or equivalent to the Department of Library and Information Science were surveyed in all the countries of Asia.

Method: The survey was conducted on the library and information science programs that are able to be accessed through the open web based on the course titles and synopsis. Analysis on fifty one library and information science programs from all countries of Asia was performed on the basis of two limiting criteria. Firstly it should be in a language comprehended by the author and using the phrase "digital library" or "digital libraries"; secondly the programmes should be at postgraduate level.

Results: There are eight countries that are offering independent digital library courses through their academic institutions, namely India, Indonesia, China, South Korea, Malaysia, Hong Kong, Taiwan and Thailand.. Academic institutions from four other countries are offering integrated digital library courses namely Malaysia, Singapore, Taiwan and Japan.

Conclusion: The number of academic institutions that are offering digital library education in Asia are really few as compared to their number globally. It can be concluded that countries that have reached a certain economic level are inspired to offering digital library education. It will not be out of context judging from the results of this study that there is a relationship between level of ICT development in a country with the willingness to offer digital library education.

Introduction

 There has been a small number of studies related to the Library and Information Science (LIS) curricula over the years. The focus of these studies is usually on subtopics of LIS courses. In 1994, Weech evaluated the teaching of economics of information in LIS schools in the US and White (2004), using content analysis method,   examined the business information courses in LIS programs. Only Irwin (2002) goes farther by looking at the programs' core courses based on catalog descriptions. At the same time there are no formal degree programs offered by the School of Library and Information Science (SLIS) in digital libraries. Only the Department of Computer Science at the National Chiao Tung University in Taiwan offers a Master Program of Digital Libraries in the world.

As digital libraries are emerging as an important area of research and practice in the creation of digitized collections there has been a small stream of studies on digital library education based on LIS curricular.

Spink (1999) conducted an international survey on the state of education in digital libraries. She found that eight of the twenty institutions examined in her study were located outside the United States. Two of the institutions are from Asia, namely the Nanyang Technological University Singapore, Singapore and the University of Malaya, Malaysia. Other studies done by scholars on digital library education are mostly concerned with institutions within the respective countries. Apart from Spink's article there are no efforts as yet to examine the issue of digital library education from global or regional level perspectives. This study is an attempt to fill the gap by looking at the status of digital library education in Asian countries.

The term "digital library" may mean different things to different scholars and groups. In the first book on this topic the author, Lesk (1997) defined it as "organized collections of digital information. They combine the structure and gathering of information, which libraries and archives have always done, with the digital representation that computers have made possible." Another slant of this definition was given by Arms (2000) in a later textbook, who stated the definition as a "managed collection of information, with associated services, where information is stored in digital formats and accessible over a network." On the other hand the Digital Libraries Federation (DLF) attributed the digital libraries as "organizations that provide the resources, including the specialized staff, to select, structure, offer intellectual access to, interpret, distribute, preserve the integrity of, and ensure the persistence over time of collections of digital works so that they are readily and economically available for use by a defined community or set of communities." Although the term is used as recently as in the early 1990s but it does appear in the scholarly literature as early as 1988 in a document by the Corporation for (NSF) Digital Library Initiative that the principles, concepts and applications of digital libraries caught the attention of the researchers and practitioners alike.

According to Saracevic (2001) there are several trends that may explain for the digital library growing importance. The digital and networked technology reached a certain level of maturity and spread rapidly, which provided for more involved, varied, broader opportunities and problems at the same time. In most, if not in all fields, the nature of scholarly communication changed drastically, creating the exploration for new approaches and sustaining it. Substantive funding became available for research and for practical developments and explorations on a variety of solutions to these problems. More funds and efforts are spent on digital libraries not only in United States of America but also in other developed countries. This is primarily due to the fact that advanced societies in the Western world are bent towards changing into a new form of society called knowledge society. As a result of this transformation managing knowledge records became more important and problems of the transformed society especially the unabated growth of knowledge records kept increasing. The extra efforts spent on digital libraries have culminated in producing a large number of practical developments, a considerable amount of professional experiences, a number of best practices and standards , a sampling of new methodologies, more research to solve complex problems , a pool of scholarly literature and of course many new techno-based applications.

However, these developments seem not to be the catalyst for curriculum development in the library and information science programmes. Saracevic (2001) asserted that "education has had little direct or organized connection with any of these rapid and substantive developments. There was little or no funding for education in digital libraries, as related to any of the multitude of the diverse activities…Overall, education is not a leader by any stretch of imagination, but a follower in digital

libraries. Mostly the existing rationale for digital library education, if offered at all, is reactive, meaning that education reacts with a time lag to both research and practical developments in digital libraries." It can be argued here that the million dollars invested in digital library research will go to nothing if there is no parallel investment in education related to digital libraries. We need to invest in human capital development as the success of any digital library development depends wholly on the competencies of those who are involved in building operational digital libraries, their maintenance and operations, and providing services to users. We do not want to reach a situation in which the developers of the digital libraries designing software that is not interoperable and compatible with the system in use simply because the developers are not aware of the efficient and effective techniques to be adopted, and the key determinants of success.

What is happening in the Western world related to digital libraries is also replicated, perhaps at a much worst level, in other countries. It is heartening to note that during the last few years some of the Library and Information Science schools in the Asian region have taken the bold steps to react positively to the prevailing situation. They have started to view education in digital librarianship to be critical in the development of any types of libraries in their countries. This is in line with the view that library and information science education should be aligned with whatever changes happening in the information environment. As such the library and information science departments should revise the structure of their curriculum to befit the changing needs as well as integrate education programmes with global activities in the field and develop pedagogical guidelines for related practical tasks, with the objectives to produce digital qualified information professionals. There is a belief among the practitioners that the rate of survival of library and information science programmes will depend largely on the extent of willingness of the library and information science educators to integrate the digital environment into the curricula and create relationship with what is happening in the real library environments.

In order to understand closely the extent of incorporation of the digital components in the curricula of the Library and Information Science (LIS) schools in the Asian region a survey of the LIS syllabi might be pertinent. It was pointed out by Pomerantz (2006) that in the USA there is currently one formal degree programme in digital librarianship: a pilot programme at Indiana University and the University of Illinois at Urbana-Champaign, supported with funding from the Institute for Museum and Library Services. There are several surveys already conducted in the USA related to the education of librarians. As a result there have been a steady number of studies of LIS curricula over the years. However, none of the existing studies on LIS curricula have been related to courses on digital libraries.

Only recently there were studies that try to address the issue of digital library education. Saracevic (2001) and Pomerantz (2006) studied the state of the art in digital library education in Library and Information Science programmes. Saracevic presented the results from a survey on the current state of digital library education in academic institutions while Pomerantz presented the results from a survey on the readings that are assigned in digital library courses and the topics of these readings. In Asia there has not been any attempt yet to survey the digital library education in academic institutions as well as to identify the type of courses that have the components of digital libraries. Conducting research on somewhat global level would be fraught with difficulties especially the language barriers that confronted any researcher. Consequently, the survey conducted on digital library education for this paper has the weakness of not being able to encompass all the academic institutions in Asia. It is delimited by the language of the countries under study.

Methodology

The methods for this study were based from those used by Joudrey (2002). The list of course offerings in Library and Information Science programmes was viewed on the open web, and courses on the topic of digital libraries were identified based on their titles and course descriptions. Syllabi were selected for courses in which the phrase "digital library" were used in either the course titles or course synopsis. Syllabi were collected from the open web, as many programmes' websites have links to course syllabi. It is pertinent to state here that syllabi were selected only from programmes and courses at the graduate level. Limiting the syllabi to those courses and programmes at graduate level was a somewhat arbitrary decision, but it was necessary in order that this study can be accomplished within the limited time frame.

Twenty one countries from Asia were surveyed in this study The academic institutions of the Asian countries were first identified through several web sources. Fifty one library and information science programs websites were later analysed. Each of the institution was examined for the postgraduate programme in library and information science as well as the digital library courses offered by the institutions. In the examination of the digital library courses there were two criteria that was applied to the identified digital library courses. The first criterion was to group together those digital library courses that are offered as independent or full blown courses. The second criterion was to group together those digital library courses that are offered on the basis of course integration in which digital library topics are integrated in other topics. For example, the University of Technology MARA in Malaysia has integrated digital library topics with that of multimedia.

As shown in Table 1 there were eight countries that are offering independent digital library courses through their academic institutions, namely India, Indonesia, China, South Korea, Malaysia, Hong Kong , Taiwan, and Thailand. Only in India, China, Malaysia and Taiwan you find the number of academic institutions offering theses courses which is more than one.

Table 1. Independent digital library courses

CHINA : Sun Yat Sen University Northeast Normal University Chinese Science and Technology Information Research Institute	Study of digital library Digital library Digital library: theory and practice
INDIA : University of Mysore Mangalore University Maharaj Nagpur University	Digital libraries Digital libraries Electronic digital and virtual libraries
INDONESIA: Universitas Indonesia	 Management of digital libraries
SOUTH KOREA : Yonsei University	 Digital libraries
MALAYSIA : University of Malaya International Islamic University Malaysia	 Digital libraries Digital libraries
THAILAND: Chulalongkom University	Digital libraries

TAIWAN : Shih Hsin university National Chung Hsing University Tamkang University	Issues in Digital libraries Digital reference services Digital imaging and animation
HONG KONG : University of Hong Kong	Digital libraries : Concept and applications

As shown in Table 2 the number of academic institutions offering integrated digital library courses is also small. There are four countries that offer this type of programme, namely Malaysia, Singapore, Japan and Taiwan. The range of integration of content includes multimedia, information portals and digital archives.

Table 2. Digital library content integrated with other courses

MALAYSIA : University of Technology MARA	Digital library and multimedia
SINGAPORE : Nangyang Technology University	Digital libraries and information portals
TAIWAN : National Taiwan Normal University	Study in digital archives and digital libraries
JAPAN : University of Tsukuba	Digital document and digital media system under course information media system

Conclusion

It is obvious from the survey that the number of academic institutions that are offering digital library education in the Asian countries are really few as compared to their number globally. There are only eight countries that are offering independent digital library courses through their academic institutions, namely India, Indonesia, China, South Korea, Malaysia, Hong Kong, Taiwan and Thailand.. Academic institutions from four other countries are offering integrated digital library courses namely Malaysia, Singapore, Taiwan and Japan.

It can be concluded that countries that have reached a certain economic level are inspired to offering digital library education. Some of the countries such as Singapore, Japan, South Korea and Taiwan are technically considered as developed nations. It will not be out of context judging from the results of this study that there is a relationship between level of ICT development in a country with the willingness to offer digital library education.

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