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Abstract

The paper is based on the Uganda Library and Information Workforce Planning Project (ULISWPP) coordinated by the author of this article early 2005 under the sponsorship of Sida/SAREC administered by the Graduate School, Makerere University. One of the major objectives of the project was to establish knowledge, competencies and skills needed by the information professionals and the appropriate curricula to inculcate such competencies and skills. The findings of the study are discussed elsewhere (Kigongo-Bukenya and others, 2005). One of the key findings was the phenomenon of change very rampant in the LIS fields today. The focus of this paper therefore is to examine change in Library and Information fields based on the theories of LIS changes advanced by Abbot (1988:1030, House and Sutton (1996) and Bourdieu (1990). Furthermore, it reviews paradigm shiftage in LIS. Finally, the paper explores the implications of the above to the LIS curriculum. The conclusion is inescapable that LIS curricula must concentrate on imparting competencies and skills appropriate to change and paradigm shiftage in LIS.

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ECOLOGY THEORY

The Ecology Theory states that the survival of a population in an organisation, depends on its fit with its environment, its "niche" - a potential place or role within a given ecosystem into which species may or may not have evolved. "As its niche changes, a population must change to survive. A population may change as a whole or it may split into differentiated populations. Multiple species may converge in the same niche, with one eventually forcing the others out." (House and Sutton 1996:137).

THE ABBOTT MODEL

In Abbott's analysis, the tasks of the professions are human problems amenable to expert service. Professional evolution is dictated by the development of new problems and new knowledge systems and therefore new tools and treatment for these problems are necessary. A profession may work to retain jurisdiction over its problems, to extend or change its jurisdiction over the newly treated problems or to pre-empt the jurisdiction of other professions. A profession's claim of jurisdiction over a problem is sanctioned through the legal system, public opinion and the work plan. Knowledge is the currency of the competition. (Abbott (1988:103).

BOURDIEU'S THEORY

Bourdieu's Theory explains competition among various professions. Individuals and groups compete for dominance within a field. They compete for success; they determine the rules, the standards by which success is determined, the currency of the competition, the players and even the boundaries of the playing fields in such a manner so as to perpetuate their advantage and dominance (House and Sutton, 1996:139). The core concept in Bourdieu's Theory is 'the *habitus*' – a system of dispositions determined by past experience, particularly by "one's class, education and profession". The implication is that new entrants are handicapped without the vital knowledge and experience that comes with the *habitus*.

The relevance of the above theories is three fold: First, Bourdieu's Theory serves a warning that there is stiff competition among the professions and that some professions may be disadvantaged by a constraining habitus. As one source has it

"…the game itself is dynamic; competitors who believe that the rules are fixed are disadvantaged" (House and Sutton, 1996). Second, that LIS institutions are facing stiff competition since other graduates from related professions are trying to infiltrate the information market, hitherto monopolized by librarians. Therefore the LIS profession must adapt to changes to survive being kicked out of the information employment market, which demands new skills and competencies for effective provision of library and information services and getting competitive advantage. Third, the LIS profession must wake up and evolve new knowledge systems to inculcate knowledge, competencies and skills to enable it survive in the era of change. The point here is not to predict the future but to underscore the uncertainty, turbulence and competitiveness of the environment.

CHANGES IN LIS FIELDS IN UGANDA

The Uganda Library ad Information Science Workforce Planning Project (ULISWPP) established changes in LIS fields reviewed below

The most fundamental change in the LIS fields is Information and Communication Technology (ICT). Its impact should now be reflected felt in the LIS Education and Training. A Curriculum that should inculcate appropriate skills and competencies required to serve an ICT based society has had to be designed and implemented. Information and computer literacy are now pass words in this society. ICT has thrown the information process wide open and the hitherto intermediary role of qualified information professionals has tremendously dwindled as individual users themselves can now directly access information. We have a proliferation of periphery information workers In these circumstances it is quite difficult to distinguish between a qualified information professional and a computer specialist or for that matter a mere computer and information literate person..

ICT has also bad side-effects including plagiarism, open copyright violation, trash publications, immorality and the digital divide. These tend to undermine the LIS profession. This is not failing to recognize the good influences ICT has had on the information transfer process. Among others, these include fast and accurate processing, storage, retrieval and dissemination of information thereby improving universal access to information.

Interdisciplinarity is another change that has had strong influence on to-day's information arena. We no longer compartmentalize information as specifically

monopolized by one discipline. There is mutual flow of information in this interdisciplinary system. The implication to LIS curriculum is that is should equip the information professionals with skills and competencies for interdisciplinary application.

The importance and vitality of information has naturally meant that the information professional must not only be well educated and trained but must be highly ethical in personal conduct and performances of responsibilities. LIS curricula therefore must pay attention to ethical frontiers to ensure that the public is as protected as are the information professionals. There is therefore the need of establishing a professional register and a code of ethics.

Another documented change is the non-permanency of the LIS scenery as it responds to the ever fermenting state of the library and information universe. This situation demands a system of Continuing Education to ensure that practioners already in the field are kept abreast of the changes in the field through CE strategies including workshops, clinics, conferences These should be part and parcel of the LIS curriculum.

Uganda has embraced the philosophy of a harmonized LIS curriculum mooted at IFLA hosted at Brighton. Consequently LIS education and training in Uganda teaches the "core" followed by specialisation or options in the programme. This is to ensure that LIS professionals would have core knowledge and standard competencies demanded by whatever specialisation one finally settles with. This is according to the view that information science is an umbrella for library science, records and archives managemnt, book trade and publishing, museumology, etc.

OTHER STUDIES ON CHANGE IN LIS FIELDS

Other studies have revealed changes in LIS. Some of these are reviewed below.

Burke and Millar (1998:101) identified four types of changes:

- The sociological changes that have resulted into expanded markets, study of foreign languages and increase in leisure;

- Technological changes which have led to technological application, increased speed in communication, and changed the traditional methods of handling information;

- Economic changes that have increased competitiveness, reduced government funding and removed trade barriers;

- Political changes that have created access to unlimited worldwide business competition and the growth of multinational companies.

Grover *et al.* (1997:268) referred to change "that was fostered by the rate at which new information is produced, disseminated and used - and that is driven by expensive developments in electronic technologies". Such change coupled with pivotal global, social, economic and technological forces in contemporary society had led to fundamental change in the core of knowledge and competence required by students.

As a result of new patterns of change in society an electronic library has emerged and while it retains the old functions of selection, acquisition, organisation and service, the new library is resident in individual communication devices and tailored to individuals or groups. (Miksa and van House (1996:126-38)

The changes have caused adjustments to LIS structures, public attitudes and expectations. Such changes have caused the shift from the 'Ptolemaic Information Universe' with libraries in the center, to the 'Copernican Universe' where libraries are at the periphery and no longer with the monopoly of library/information provision.

The changes must be addressed by unique type of education: a professional education that is responsive, both to the changes that currently are occurring and to those that are predicted in the near term; the preparation of professionals who cannot only anticipate change, but who also act as change agents, directing and bringing about change in their institutions, in response to societal needs and shifts.

IMPLICATIONS OF CHANGES TO THE LIBRARY AND INFORMATION CURRICULUM

Several authorities have examined the implications of change in the context of LIS education. Burke and Millar (1998:101) made the following comments on the nature of responses required:

- In response to social changes, information professionals need to learn foreign languages to be able to communicate globally and to be able to work in any country if need arose. There is also need to study users needs so that information professionals could be able to establish the clients' real needs through user studies.

- With regard to technological change, the tremendous increase in use of facsimile, electronic mail systems, computer networks and the Internet, dictates that information professionals should be taught information technology skills.

- In response to economic changes information professionals should be taught marketing, public relations, business and information management techniques and skills

- With regard to political changes, information professionals should have knowledge of national and international information systems, communication skills, and knowledge in international relations.

- Teach "intelligence" - defined as "the effective and efficient use of information for the better understanding and interpretation of your own and your competitor's business" and systems design - so that unlike in the past information professionals should design computer/communication systems to make them ideal from the user's point of view.

ICT developments dictate that information professionals in the library and information services must have IT competencies and management skills to manage information services. After all, library and information schools and their graduates are to-day facing stiff competition from business and management schools which turn out graduates who are computer literate and ICT-oriented. This development means that if graduates from the library and information schools were to compete with these graduates, they must have equal competencies (Brittain 1989:153-205).

Grover *et al.* (1997:273) argued that an appropriate curriculum should be one to enable the information professionals to learn, unlearn and re-learn throughout their careers.

Such information curricula must support the preparation of professionals who were problem solvers, creative, flexible, innovative and fluent in technology. Consequently LIS programmes must address attitudes and ways of thinking as well as theory and skills in their curricula. They proposed a curriculum for information professionals to

include the following areas: professional philosophy; understanding human behaviour; understanding the information transfer process; information engineering; information organisation management; global information infrastructure; a tools course: inquiry and analysis, basic information sources, organising information, and information retrieval and repackaging; an application course in technology, global information, management and information transfer.

Furthermore, values and attitudes required by information professionals were specified and include a global perspective; a well-defined professional ethic; a concern for others and the ability to promote civility in practice; an acceptance of change; a passion for excellence; a positive attitude; a respect for diversity; a sense of humour; a sense of self-worth; an acceptance of ambiguity; a willingness to take risks; an energetic nature; technological fluency; and an appreciation for the contributions of research from a variety of methodological perspectives.

Giving an American view, Dosa (1985:205) outlined that a LIS curriculum to address change should consist of:

- ➢ Information Resource Management: involving co-ordinating collection of data from the public; implementing cost accounting for information activities; and managing hardware and software.

- ➢ Information Counselling: to avail skills to information managers to become intermediaries between data sources and management for decision-making, problem-solving, policy planning, and putting information to work.

- ➢ Research utilisation, which should develop (give) skills of information analysis, evaluation and synthesis.

- ➢ Social Networking geared to manage information resources and co-ordination of networks.

- ➢ Public information dissemination to afford skills in resource utilisation, technical competency and communication skills.

The German view suggests that in order to address change, LIS curriculum content should comprise of: information management, electronic data processing, and technical documentation, information brokerage, information analysis and preparation and information consultation. (Simon (1987:115-185)

Based on input from several contributors to his research, Brittain (1992:169-188) produced a list of major topics of new information science courses:

> IT - Computing and information technology, Non book media, Programming, Expert systems, Information storage and retrieval and Database structure and design

> Management - Management and marketing skills, Human factors, Organisational structure and Information and society

> Academic - Academic subjects

> A course on contra-individualism was recommended to train students in critical approaches to issues and unintended consequences of ICT; unacceptable factors of ICT; user problems; the cycle and nature of ideas and fashions; information overload and aspects of an information-resistant society.

Moore *et al*, (1998:3) state that one of the most important activities of an information society is to maintain a cadre of qualified information personnel. Effective management of information requires professionals who understand information, how it is created, organised, sought and used by people in both their work lives and their personal lives. Such information professional would require a curriculum to study the theory, principles, and practices that are required to address the nature of information, how it is used and managed, systems mechanism, institutions and tools to facilitate that use, all of those factors and facets placed in the larger social, economic political and technological context of society. Within that context the curriculum was to be conceived in terms of knowledge, skill and tools.

Three complementary groups of information professional would characterise an information society and their role and skills required are defined below:

> The creators would be the ones to create information products and services. They would need the following skills: navigation skills to guide people to get through the mass of information and get exactly what they need; skills in the complex set of processes associated with information; and the skills of understanding information seeking behaviour and user needs

> The Communicators will work in advisory centres, and all types of information centres to communicate information to the users. They will need skills including

organisation skills, interpersonal skills, analysis of people's information requirements, and retrieval skills.

➢ The Consolidators will act as the filters and researchers in the work team. They will need skills such as ability to collect information, analysis and synthesis of information, and effective packaging and presentation of information.

Thapisa (1998:20) outlined the Competence-Based-Product Vision of the University of Botswana, aimed at producing job-ready students in all the study programmes of the Department of Library and Information Studies. The starting point was that the curriculum needed complete overhaul. The study sought input from several sources through the "African Libraries List serve" and direct e-mail messages on the following issues:

➢ Defining the product and its idiosyncrasies;

➢ Identifying and defining the competencies needed in the market;

➢ Identifying and defining the skills to be taught and acquired;

➢ Defining teaching methodologies to deliver such competencies and skills;

➢ Implementing the syllabi.

The responses were varied. Deheer (1998) thought that library schools in Africa had to think seriously about what meaningful training of information professionals was required to make them effective information brokers in the peculiar needs of African communities.

Underwood and Hevi (1998) agreed that the people to be recruited and educated should be those who would engage the needs of the communities, intervene in a professional manner, and stimulate the use of information in those areas.

Woodworth (1998) identified critical competencies in LIS as those of the technological nature: knowing what the internet is and is not; evaluating and using hardware, software and computer networks; understanding basic computer and information science concepts; and able to work with search strategies, search engines and emerging standards.

Willet (1998) suggested that there was "need to go beyond traditional library and information training" to cater for the emerging markets of the third millennium. Consequently the "courses should be strongly IT focused: but differentiated from

conventional computer science courses that dwell with "T" in IT, by a focus upon the "I".

Arundale (1995) argues that, "Professionals must have the ability to relate theory and practice, to learn from experience, to revise and update the state of their professional understanding, and to adapt to change". Whereas Layzell-Ward (1998) advises that information educators should listen to the local professional community and its feelings about the nature of competencies and skills. She also advises: "Provide introductory skills in coaching and teaching to help them move to meet the needs of to-day and increasingly in the future".

Other studies on the implications of trends to LIS education have been carried out by Vigiano (1972:153-157); Wolpert (1977:14), Bennits and Summits (1977).

From the views above, change is constant and brings along with it unforeseen developments. Society always adapts to change. It is therefore imperative for institutions that serve society to change and offer appropriate services. Information schools/departments need to constantly change their curricula in order to survive. The philosophy of the information schools should be to produce such personnel not only equipped with competencies but also with principles and theories forecasting and managing change.

From the foregoing, the message is clear: information schools/departments should also train their graduates in such a manner that they get knowledge, attitude and competences to make them competitive in the emergent information market. Two things need to be done quickly: first the LIS schools need to recruit high fliers to new programmes. Secondly, new LIS programmes need to be a unique mix of parts of traditional librarianship, elements of existing information science, and a professional approach to those aspects of computer science and ICT most likely to be required in the emerging market.

PARADIGM SHIFTAGE

Many social, technological, and workplace transformation developments that have taken place have responded to global competition, new computing skills and communications technologies, and the perceived need to measure the productivity of knowledge and service workers. Consequently there have been three major paradigm shifts: the transition from paper to electronic media as a dominant form of information

storage and retrieval coupled with the convergence of previously separate media such as text, graphics, and sound, into multimedia resources. The second shift has been increased demand for accountability including focus on customers, performance measurement, benchmarking, and continuous improvement. The third shift is the work organisation such as end computing, work teams, management delivering, job sharing, telework, outsourcing, downsizing and re-engineering.

The paradigm shiftage in their wake mean both enhancement and adoption of new competencies in the LIS fields. One source has listed eleven professional and thirteen personal competencies. (http://www.sla.org/professional/competency.html)

- ➢ Special competencies relate to the special librarian's knowledge in the areas of information resources, information access, technology, management and research, and the ability to use these areas of knowledge as a basis for providing library and information service.
- ➢ Personal competencies represent a set of skills attitudes and values that enable librarians to work efficiently; be good communicators; focus on contnuining learning throughout their career; demonstrating the value added nature of their contribution and survive in the new world of work.

Spiengelman (1997:1-2) asserted that:

> We believe these competencies should be incorporated into the accredited school curricula. In addition, information associations should provide professionals developments courses to help practioners develop and improve theses competencies. The individuals, the associations, and the educators have an obligation to continue monitoring the evolution-taking place in the professional environment, with the objectives of adjusting the competencies to match these changes

CONCLUSION

It is important to note that changes take place overtime and hence paradigm shiftage. The paradigms shiftage imply the fact that different scholars have approached the information discipline from different points of views, based on area of interest, time and specific domain. The examination of how knowledge domains differ at some

points and are similar on other points is important in order to develop the information science discipline. It is necessary to strengthen Information Science in many ways. We should not disregard the nature of knowledge, information and documents. We should encourage the study of the rich flora of such entities as documents, domains, genres and communities from a specific information point of view. It is also hoped that different perspectives will enrich the field, that the connections between research and practice will be strengthened and that a growing feeling of the relevance of Information Science will arise in the library, documentary and information communities.

The question 'what is information?' asks for substantial characteristics of something. But information, taken as a dimension of human existence, is nothing substantial. Instead of asking: 'what is information?' we can ask: 'what is information (science) for?' The turn to the second question means a change of perspective hence change/ paradigm shiftage.

Finally it can be stated without any fear of contradiction that he crusade to educate and train LIS professionals has intensified because of the ever-expanding LIS market and the ever-changing scenery of the LIS landscape or paradigm shiftage. Consequently LIS educators and trainers have to keep on their heels anticipating, managing change and respond by designing and re-designing programmes which should provide appropriate theory, competencies and skills. This seems the correct response to the now embattled LIS profession where ICT has brought on board hitherto unknown competitors in the information transfer process. The pressures of realties should not hold us back; instead let us have strong dreams because no reality can stand against strong dreams. Machiavellie was right in the Prince when he mused, "Change is like a sword it cuts either ways" The message to us LIS educators is that we should never antagonize the sword…we may never be lucky to survive it!!!

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