



Rising above the grain silo mentality through collaboration: Creating opportunities between the LIS educators and Practitioners in developing countries

Collence .T. Chisita

Dphil Cand.

Harare Polytechnic-School of Information Sciences

Harare, Zimbabwe

Ismail Abdullahi

Associate Professor

North Carolina Central University

Durham, North Carolina, USA

Session:

213 — Building collaboration between LIS educators and practitioners in developing countries: transcending barriers, creating opportunities — LIS Education in Developing Countries Special Interest Group

Abstract:

The training of future Library and Information Science is no longer the responsibility of the educator alone but a matter of collaboration between practitioners and educators. As the developing countries move towards a knowledge driven economies, it has become imperative to promote and sustain collaboration between practitioners and collaborators in Library and Information education. Collaboration between educators and practitioners in Library and Information Science is now a common feature the world over. The use of Information and Communication Technologies (ICT's) has made it possible for LIS Educators and practitioners to overcome the challenges of time and distance. This paper will explore the extent of collaboration between LIS educators and practitioners in developing countries. It will highlight the nature of collaboration between educators and practitioners in Library and Information Science. The paper will explore the socio-cultural, economic, geographical, technical and financial factors that impede collaboration between LIS educators and practitioners. The treatise will also consider how complementarity and compatibility also affects collaboration at regional and international level. The paper will also explore the extent to which collaboration across countries can help to improve standards. It will highlight how Library and Information Science Schools can benefit through keeping abreast of international quality standards in research, education and services. The treatise will highlight how Library and Information Science educators and practitioners can develop a high class and sustainable model for education and training through collaboration

at local, regional and international levels. The writer will also seek to find out how collaboration can help to add value to the theory and practice of LIS education in developing countries and also how it can address issues of pragmatism and relevancy.

Key words; *collaboration; Information and Communication Technology; Education; sustainable development; research; knowledge production*

Introduction

Roberts and Rowley (2004:24) posits that collaboration is a key feature of information Science and an exciting aspect of the Information Profession because the history and development of LIS is anchored on partnerships with regards to library cooperation, bibliographic, research and development. The interdisciplinary and dynamic nature of the LIS profession renders it acquiescent to collaboration because of the dire need to keep up with current trends in the profession , for example, internationalization, standardization, technological progress, teaching methods ,research and development among other issues. Information and Communication Technologies (ICT's) provide useful platforms to enhance collaboration and networking between educators and practioners. Al-Suqri (2010:48) states that collaboration in LIS is critical in order to ensure relevancy of programmes that are currently being offered by LIS schools in the developing world, namely Africa, Asia and Latin America. Generally the global trend is that LIS courses are subject to recognition by professional associations even though there are variations from region to region and this justifies the need for synergistic relationships between all stakeholders in ensuring quality LIS Graduates, provision of high quality library services and recognition of LIS qualifications.

Silo Mentality

The silo mentality is a metaphor for organisational parochialism according to Guelke (2005:749). It is an antonym for the system approach or strategic thinking which views situations from a holistic perspective rather than from narrow minded perspective. Silo mentality can create barriers and blocks opportunities for creagement or effective management of creativity and innovation within and between organisations, individuals and disciplines according to Stone (2004:11-14).The end result of narrow mindedness is

consequential failure to achieve common goals and there is likelihood of duplication of effort because of lack of coordination through collaboration. In information /knowledge age characterised by ubiquitous ICT infrastructure professional and academic parochialism should not deter collaboration because there is more to gain through networking as illustrated by Watson (2003).

” No elephant can exist alone for long. It is part of the larger whole, a network so diffuse that an extended herd can cover hundreds of square miles. A web of sound connects each part, turning their apparent thin scatter into one great thick –skinned organism” Watson (2003)

The concept of Collaboration

Chaudhury (2007) identified collaboration as one global trend that was helping to transform LIS education. Axelsson,;Sonnenwald, and Spante , (2006) define collaboration as process involving human behavior between two or more individuals that provides for sharing of meaning and completion of tasks with respect to mutual shared super- ordinate goal. There are a number of internal and external factors that stimulate collaboration , for example , quality , credit, awareness, legitimate authorization, academic culture, funding among others according to Bukvova,.(2010:3-4). Sonnenwald (2007) notes that there are a number of factors that have contributed towards collaboration , for example, scientific, socio-economic, political, resource accessibility and social networks. Gray views collaboration as a way of joint decision making amongst key stakeholders with reference to a problem domain and the future off that domain. Jassawalla and Sashital (1998:239) view collaboration as the convergence of diverse interests and people in order to realise common goal through interactions, information sharing and coordination of activities. The key aspect in most of these definitions is the idea of working together for a common purpose.

“It is wonderfully ironic that the term collaboration is not well understood because it is used to describe so many kinds of relationships and activities. It suffers not from lack of meaning but too much meaning” Himmelman(1997)

Collaboration takes many dimensions, for example, it can occur at an intra or inter institutional or intra or interdisciplinary level, for example collaboration between LIS educators and practioners at a national level in Zimbabwe. Lin (2004) provides a definition

of collaboration which encompasses the aspect of addressing shared problems and issues and standards in education. “Cooperation in Library and Information Science is defined as a process that “incorporates relationships between two or more people or organisations. It involves active partnerships with resources being shared or work being done by multiple partnership with resources being shared or work being done by multiple partners in coordinated effort for the common good. It involves having a shared sense of a problem or challenges to an area”Lin.(2004)

Dakers (2003:47) states that collaboration as a form of corporation requires individuals and institutions to agree on a common agenda from which both parties will benefit and contribute throughout the lifetime of the relationship. The author further notes that successful partnership can only succeed if there are clear objectives and a commitment to fulfill such objectives, clear demarcation statements of demarcating the responsibilities of those involved, effective communication and dogged tenacity or persistence in pursuing the ideals of the joint venture or collaboration.

In Zimbabwe the element of partnership is a common feature of the LIS profession with regards to education and training of future LIS Professionals. The first LIS schools were established through lobbying by LIS Practitioners who had been educated abroad. These professionals partnered with other professionals to help in drafting proposal for the establishment of LIS Education and training in Zimbabwe in 1984. “...partnerships are one of the most complex and difficult ways in which to work. When it works even reasonably well, however, it can bring some of the best results for the end user” Dakers (2004:47)

Partnerships between educators and practitioners are critical in human capital development because without it not nation can develop. Collaboration between LIS practitioners and educators will contribute towards meaningful human capital which is critical in transforming society. Xavier (1990) highlighted the critical role education and training play in human capital development. “...**the main determinant of poverty today is neither lack of natural resources nor geographical marginality but rather lack of appropriate human capital to produce value, make use of technology and attract investment...**”

Collaboration and education

The education and training of new LIS professionals should be viewed as a career –long learning process whose responsibility lies on the individual, universities, employers and professional associations according to Hallam (2006:16). The author further echoes Australian Library and Information Association (ALIA) motto and concludes that the future of LIS lies on all stakeholders working collaboratively and proactively to “inform, innovate and inspire”. In Zimbabwe, curriculum development involves a variety of stakeholders, for example, LIS educators, practitioners, government and communities. The need for collaboration between LIS practitioners and educators has become as imperative as the country drives towards competency based education and training (CBET) and the National and regional qualifications framework (RQF)

Hallam, and Partridge (2006:1-3) argue that the LIS profession is supposed to engage in continuous research in order to create new knowledge and contribute towards the growth of LIS as a profession or discipline. Gibbons (2005) stated academic institutions can only serve the public good and justify their existence and funding by the taxpayer through producing “socially robust knowledge.” This knowledge requires inter-disciplinary, intra-institutional and inter-institutional collaboration between various stakeholders in LIS education and training.

Juznic and Uburnija(2003:325) state that without research LIS will lose its luster and will be reduced to an occupation grounded in techniques, routine and common sense rather than a profession. Al-Suqri, (2010:48) states that in Africa, Europe and Asia the drive towards international collaboration amongst LIS Professionals is contributing to the growth and sustainability of LIS education and also generating innovative ways of overcoming resource scarcity and other weaknesses. Al-Suqri, (2010:49) further notes that collaboration between LIS Educators and Practitioners is significant because of the seismic changes brought by ICT's and the drive towards competitive and market driven LIS education and training.

The drive towards competency based LIS training in Polytechnics will strengthen collaboration between LIS educators and practitioners because appropriate training of students for national development cannot be compromised. Allen and Eby (2007) note that there are a number of studies that confirm that learning through practice contributes to high academic and professional standards and employability of students, for example, internships,

mentor company programmes or On Job Education and Training(OJET). Mutabarukwa (2007:85) views Competency Based Education and Training as a tool to create and develop a workforce that can underpin a growing economy, for example, its introduction in developed countries like United Kingdom resulted in availability of skilled personnel who were able to work in both formal and informal sectors. Competency Based Training and Education (CBET) are associated with the labour market orientation which places heavy emphasis on industrial attachment or internship within the LIS curriculum.

There is need for collaboration between all stakeholders in order to provide the needed competencies through curriculum review and development, continuous internal and external assessment, internship or on the Job Training and securing opportunities for employment. Industry provides an ideal environment for students to apply the theory they will have absorbed at the College or University. This collaboration is based on mutual beneficial relationship because each stakeholder has a key role to play that ultimately determines the realization of the goals of the collaboration. The success of Competency Based Education And Training in LIS is hinged upon closer collaboration between the key stakeholders. Grit (et.al) (2006) define competency as the use of knowledge, skills, attitude and personality in an appropriate way to execute a professional task. Amankwah and Swanzy (2011:107) notes that building competencies is a three dimensional stream involving a number of stakeholders namely; students, industry, government, the academia and the community.

Collaboration and Accreditation

Accreditation of LIS qualifications is critical to ensure quality. Majid (et.al) (2002) defined accreditation as a process which assures that educational institutions and their programmes meet appropriate standards of quality and integrity. The author further defines it as a collegial process based on self evaluation and peer assessment for improvement of academic quality and public accountability. American Library Association (ALA) (1992) standards are premised on the notion that views accreditation as a critical process that assures stakeholders of an institution's clearly defined and educationally appropriate technology and its ability to maintain conditions under which achievement can reasonably be expected and the extent to which objectives can be achieved. Accreditation becomes a means for quality assurance and enhancement to achieve educational objectives. Khoo; Majid and Chaudhry(2003:131-132) state that accreditation schemes are useful in enhancing the quality and acceptability of

qualifications and also providing flexible mobility opportunities for library and information professionals within a region. Accreditation involves collaboration between LIS educators and practitioners, government and industry. There are a number of issues

Khoo; Majid and Chaudhry (2003:131-132) states that there is need to view accreditation as a collegial and productive process involving dialogue, consultation and mutual beneficial relationships, instead of negatively viewing it as witch-hunting exercise meant to find faults and measure local standards using unachievable international yardsticks. Dialogue can take place between the LIS educators and its primary and secondary stakeholders including the practitioners and this can be done through Public-Sector and Private Sector Partnerships(PPP's), for example , dialogue with industry and commerce, LIS professional associations government, other LIS schools, accreditation bodies, related programmes, students and alumni among others. Accreditation also requires LIS educators to do some self evaluation through internal continuous assessment in order to realize an fairly extensive and detailed evaluation study of the programme.LIS schools in Zimbabwe's Polytechnic's provide a good example of continuous internal assessment culminating in an external assessment at the end of each academic year for the various courses provided by Higher Examinations Council (HEXCO).

Babyegeya (2006:10) notes that academic auditing as a quality assurance measure should be done periodically because the world is changing and knowledge is also changing and this necessitates adaptation to changing environments. Academic auditing involves examining the appropriateness and relevance of programmes so that they continue to meet the needs and demands of the society and learners. Academic auditing involves periodic reviews to identify strength and weaknesses and gaps that affect quality of LIS education.

Okello –Obura, and Kigongo- Bukenya (2011) advocated for internal and external collaboration and partnerships amongst LIS institutions encompassing, teaching, research, student and staff exchange, conferences and workshops, curriculum development, publications, research supervision and examination and distance teaching, learning, and research. Roberts and Rowley (2004:25) state that the information profession has a history or tradition of collaboration as reflected by its enthusiasm for standards and standardization in information management and delivery of quality services or products. The authors further explore various types of partnership including strategic partnerships which are mainly

concerned with long term strategic position of an information service or its parent organisation, for example mergers between two higher education institutions. Currently In Zimbabwe, the Ministry of Higher and Tertiary Education has included Research and Intellectual Excellence, Public and Private Sector Partnerships and Curbing brain drain as key priority areas. Universities and Polytechnics are scrambling to forge partnerships with private sector. Government has formulated a Public Private Sector (PPP's) framework to guide and rationalize such partnership so that they remain a win- win situation rather than a zero sum game.

Dialogue as a special instrument for collaboration

Morran (2000:52) advocates for dialogue to reconcile the disparate view points because of the mistrust, misunderstanding, suspicion and lack of cooperation between LIS Educators and practionners. There are calls to use “genuine dialogue” or to “reengineer the relationship” between LIS departments and the profession as the basis for building sustainable collaborations according to Fearther (2003) Hallam (2007) notes that the relationship between educators and practionners has been characterised by acrimony, the two have been uneasy bedfellows. This is reflected by insufficient interplay and interaction between the two .It is assumed that because of the global “Macdonaldisation” and utilitarian approach to education many librarians after graduating become insulated against developments in Library schools , just as LIS Educators also lose contact with current trends in industry. The lack of collaboration between LIS educators and practioners can undermine professionalism and ultimately lower the status of LIS qualifications.

Lillard and Wales, (2003)states that a combination of LIS practionners valuable knowledge and insight into the current needs of the profession and the educators intimate knowledge of higher education can contribute towards the development of the profession. The two authors posit that the LIS practionners must be committed to ensuring the unrelenting value of the professional qualifications through collaborating with LIS educators to prepare for future information professionals. It is through this form of teamwork that the quality of LIS qualifications can be enhanced and the status of the LIS Profession enhanced in both education and practice.

The relationship between LIS Educators and practitioners is affected by a number of factors, namely, administrative, educational, professional, monetary and perceptual, for example, where the library is viewed as a support or auxiliary institution there is a tendency to look down upon it. The hypnotic drive to publish or perish, among academicians will push them towards theory, while the practitioners will pull towards day to day relevancy according to Mulvaney and O'Connor (2006:38). In Zimbabwe LIS practitioners and educators are brought together through projects aimed at curriculum review, internship, seminars and conferences but in most cases each group is insulated from the other. Moren (2001:54) states that LIS Practitioners and educators inhabit two different worlds with insufficient interaction and interplay between them, "Many librarians have little firsthand experience with library education after they graduate. They don't go back to the schools for alumni functions and often their knowledge of what is happening in the schools comes to them second or third-hand..."

Laurent pointed out that practitioners, more often than educators, perceive a gap between theory and practice in library education. Denis suggests that this perception reflects practitioners' frustrations over their lack of influence on the education of their future colleagues. He further argues that, even though the American Library Association (ALA), the accrediting organization, is composed primarily of practitioners, the accreditation process allows those practitioners little influence over course content and teaching methods which remains a preserve of the educationists.

Laurent(1987) pointed out that practitioners are frustrated by the gap between theory and practice in LIS education and training and they attribute this to the lack of collaboration between them and educators. The issue of theory and practice can also be illustrated by the differences between ancient Greeks and Romans, while the former viewed education as philosophical and academic; the latter viewed it as vocational. Ton De Bruyn (2009) states that the academician and practitioners need each other in order to develop a wholesome curriculum and graduate "...we have to consider the integration between the architect and the builder, stressing that we have to build a palace and if we want this palace to be strong and effective, we need both of them..."

Collaboration: Case of Europe

In Europe The Declaration of Bologna (1999) recognised that despite socio-cultural , technological and political differences European higher education systems were facing common problems which could be solved through a coordinated reforms, compatible systems and common action. This declaration provided a basis for LIS Collaboration between educators and between educators and practionners. Tammaro (2009:180-183) views the Bologna Process as a lever of quality enhancement in LIS Education through harmonisation and making more transparent in order to facilitate recognition of qualifications and cross boarder quality assurance. Kajberg (203:218) notes how European and NORDIC LIS schools collaborative and exchange information , for example, SOCRATES , NORDPLUS and ERASMUS Schemes which provide opportunities for funding student and staff mobility, joint courses and curriculum development projects among others. The Nordic LIS landscape encompasses a variety of collaborative activities, for example, joint meetings and conferences for academic staff, meetings for Heads of LIS institutions, joint research, student and staff exchange programmes and exchange of teaching material. The author further notes that this network should be broadened to include developing countries.

While developing countries have made greater strides in building collaborative platforms and utilizing ICT Platforms to enhance collaboration, the same cannot be said of developing countries as they have to come to grips with the challenges of the knowledge age, for example, commoditization of information, cost of acquiring modern ICT infrastructure, underfunding, high cost of library resources and digital divide among others.

Kajberg (2003) noted that the differences in LIS Education in Europe were due to historical, cultural, economic, political, educational traditions, practices and regulatory systems. The same can be said of Southern Africa considering that it was formerly a colony of Britain, France and Portugal. Kigongo-Bukenya and Musoke (2011) highlights the critical role that LIS collaboration can play in facilitating sharing of technologies and experiences. The authors further note that North –South collaboration is critical in terms of benchmarking and support , for example , visits or student/lecturer exchanges can be used as a tool for learning best practices or cultural borrowing.

Chow (2011:3) states that the theoretical underpinnings of LIS seem to be trailing behind because of impact of ICT, for example, there is a rush or obsession to prepare students to

work in technology driven environments. The author bemoans the relegation of the foundation of LIS as encapsulated in Cataloguing, reference, and Collection development because of the proliferation of public access databases and digital libraries, yet such knowledge and skills serves as a critical theoretical foundation for the effective management of such information environments. Myburgh (2003:233) argue that fluency in information technology management should be considered more as a means and not an end. The author further states that emphasis should be placed on how knowledge is created and how it is organized in different fields and how to assess it and the discipline specific problems associated with assessing it. Rochester (1997:2) argues that the cognitive base is the key factor to the internalization and of the ethos of profession because it determines the exclusive and particular skills and knowledge as well as social recognition rewards and career path of the profession.

Collaboration and New Mode of Knowledge Production

Gibbons (et.al) (1994) stated that the second half of the twentieth century marked the development of hierarchical, discipline based, university centric and cognitive based Mode 1 of knowledge production. The major concern was to produce knowledge in peer reviewed journals “production of knowledge for knowledge sake”. The transition from mode 1 to Mode 2 of knowledge production marks a paradigm shift from theoretical to applied knowledge. Mode 2 of knowledge production is reflected in scientific research characterised by trans-disciplinarity, heterarchical, applicability and practicability. Gibbons (et.al) (1994:17) defined Mode 2 Knowledge production as a knowledge triangle involving collaboration between government, higher education and industry. Transdisciplinarity implies that research is generated and provided in the context of an engaged network of internal and external partners, for example, LIS practioners and educators collaborating to conduct research as well as developing curricular.

Frodeman (2010:8) posits that the twenty first century has witnessed a transition from Kantian disciplinary to interdisciplinary or integrative knowledge production. The author states that the old model of knowledge production is no longer compatible with the technology driven twenty first century characterised by information and communication technologies, globalisation and accountability. Axelsson,;Sonnenwald, and Spante , (2006) states that libraries initiate collaborative projects and utilise modern technology in order to

overcome the challenges of the twenty first millennium, for , example, high cost of library resources, dwindling budgets, information deluge, technological obsolescence, and continuous professional development among others. Klein (1990) defines interdisciplinary research as an integration or synthesis of varied perspectives on a particular case.

Nowotny (2001) also echoed similar sentiments by viewing Mode 2 as a form of mutual cooperation between the various players in the academia, industry, governments and students. Mode 2 societies are associated with the knowledge society or knowledge capitalism whereby knowledge is the determinant factor of production just as how land, labour and capital have been to the industrial societies of the bygone age. Holland (2005) states that the Mode 2 form of engagement scholarship involves a variety of players and grapple with complex, evolving questions that may require long term effort in the drive to come up with practical solutions to solve problems. This implies that under Mode 2 of knowledge production affords academic institutions opportunities to enter into new working partnerships under the rubric of collaboration. Collaboration between LIS Educators and practionners should flourish in the knowledge age through exploiting opportunities for cooperation, for example, the design of Information /Digital literacy courses, mentorship programmes, internship or on the Job Education and Training

Information/Digital Literacy and Collaboration

While Academic libraries through their consortium have managed to embrace ICT's in the creation of various digital platforms, for example, institutional repositories, e-journal portals, e-book collections and various open access resources, there is need to ensure that users are equipped with the appropriate skills and knowledge to able them to make optimum use of such resources. The design, implementation and evaluation of Information/Digital literacy programmes require synergetic relationships between LIS practionners and educators and also between LIS Practioners and educators from other disciplines in both the arts, pure and applied sciences. Information literacy programmes should be developed through teamwork between LIS Educators and practioners. 'When we collaborate, we go beyond informing. We begin...in different places in our understanding...but gradually meanings are negotiated. Then at some point inspiration enters" Markless (2009)

References

- Allem, T.D. and Eby, L.T.(eds) (2007)**Blackwell Handbook of Mentoring: A multiple perspective Approach**.Oxford:Blackwell Publishing
- Al-Suqri, N.M.(2010) **Cooperation in Library and Information Science in the Gulf Cooperation Council (GCC):Current status , challenges and future trends**.IN:Emporia State research Studies Vol.46.No.2.
- Amankwah, E. and Swanzy, P.(2011:107)**The role of stakeholders in building adequate competencies in students for the job**:IN:International Journal of Vocational and Technical Education, Vol.3.No.8
- American Library Association(2003) **Accreditation, process, policies and procedures**.
Chicago: The Association[Internet]Available <http://www.ala.org/Content/Navigationmenu>
Accessed 23 April, 2011.
- Axelsson, A. ;Sonnenwald, D.H. and Spante , M. (2006)**Needs and Challenges with respect to establishing Collaboratory within Library and Information Science:Practionners Perspectives** IN: Proceedings of THE Information Use in Information Society, October, 2006.
- Babyegeya,E.(2006) **Assessment and Quality Assurance Procedures in Open and Procedures in Open and Distance Learning(ODL):The case of The Open University of Tanzania(OUT)**.IN: Journal of Issues and Practices in Education(JIPE) Vol.1,No.1 June, 2006.
- Bologna Declaration. Joint Declaration of the European Ministers of Education.IN:Ministers of the European Ministers of Education , Bologna, 1999.
- Chow, A.(2003:3) **Changing Times and requirements: Implications for LIS Education** IN:LIBRES, Vol, 21.Issue,1.
- Dakers, H.(2003:47)The BL Reaches out.IN:Library and Information Update, vol.2(10)
- Frodeman, R.(2010:8) **Interdisciplinary research and academic sustainability: Managing knowledge in an age of accountability**.IN:Environmental Conservation

Gibbons, M.(et.al)(1994)**The new production of knowledge: The dynamics of science and research in contemporary society**. London:Sage.

Gibbons, M.(2005)**Engagement with the community; The emergence of the new social contract between society and science**.Griifith University: Community Engagement Workshop.

Grit, R.;Guit, R. and Sijde, N.V.(2006) **Managing your competencies: Personnel Development Plan**.WoltersNordnoffGroningen/Houten.Netherlands

Guelke, C. (2005)**A strategic approach to disaster preparedness**. Paper presented at the Management Engineering Conference Proceedings, IEEE International.

Hallam , G.(2006:16) **Trends in LIS Education in Australia**.IN:Khoo, C. and Sign , D. and Chaudhry, A.S.(eds) Proceedings of Asia- Pacific Conference on Library and Information Education and Practice, 2006.Preparing Information Professionals in the New Age.Singapore:Nanyang Technological University

Hallam,G. and Partridge, H.(2006:1-3)**Evidence based Library and Information practice: Whose responsibility is it anyway? Evidence based Library and Information Science practice**. Vol.1 No.3

Himmelman, A.T. (1997) **Devolution as an experiment in citizen governance: Multiorganisational partnerships and democratic revolutions** [Internet] Available <http://www.commbuild.org/documents/himmdevo/html> Accessed 10 August, 2011.

Jassawala, A.R. and Sashittal, H.C. (1998:239) **An Examination of Collaboration in High Technology new product development processes**.IN:Journal of Product Innovation Management.Vol.15.No.3.

Johnson, I.M.(et.al)(1987) **Harmonisation of education and training programmes for Library Information and Archival personnel**. Proceedings of an International Colloquium. London 9-15.Munchenm: Saur, 1987.

Juznic, P. and Ubarnija(2003:325)**Developing research Skills in Library and Information Studies**. Library Management ,Vol.24.No.6/7

Kajberg, L.(2003:219) **Cross country partnerships in International Library and Information Science**.IN:New Library World, Vol.104. Issue, 6.

Kajberg, L.(2003:26) **A survey of Internationalisation activities in European in Library and Information Science Schools**. New Review of Library and Information Research , Vol.9

Khoo, C. ; Majid, S. and Chaudhry, A.S.(2003)**Developing an accreditation for LIS professional Education Programmes in South East Asia Issues and Perspectives**.IN:Malaysian Journal of Library and Information Sciences, Vol8.No.2, p131-149.

Kigigongo-Bukenya, I.M.N. and Musoke , M.G.N(2011) **LIS Training and education in developing countries: Developments and Challenges with special reference to Southern Sudan and Uganda** .Paper delivered at the Satellite Pre Conference of SIG LIS Education in Developing Countries, IFLA , Puerto Rico 11th-12th August, 2011.

Klein, J(1990). **Interdisciplinarity**. Wayne State University Press: Detroit.

Lassi, M. and Sonnenwald, D.H() An introductory to Library And Information Collaboratory

Laurent ,G. D.(1987:154-156) **Field Input in the Education of Library and Information Science Professionals**. Fasick,M.A. (ed) The Visible College .IN: Journal of Education for Library and Information Science 28 (1987).

Lillard, L.A. and Wales, B.A.(2003) **Strengthening the profession: Educator and Practionner Collaboration**.IN:Journal of Academic Librarianship, Vol. 29 Issue 5, p316-319.

Lin, C.P. (2004) **The challenges and opportunities of regional cooperation in LIS education in East Africa**.World Library and Information Congress.70Th IGFLAS General Conference and Council 22 -27 August, 2004 Buenos

Majid,S(et.al) **Developing an accreditation system for LIS Professional education Programme in South East Asia: Issues and Perspectives**.IN:Malaysian Journal of Library Information Science.Vol.8.No.2.December, 2003.p.131.

Markless, S.(ed)(2009) **The innovative school librarians**.London:Facet

Mulvaney, J.P. and O'Connor, D. (2006:38). **The crux of our crisis**.IN: American Libraries, Vol.37 No.6.

Mutarubukwa,M. (2007:85)**Practical Implications of Competency Based Education and Training Curriculum to Trainees in the Vocational and Institutions**.IN: Journal of Issues and Practice (JIPE) Vol.2 No.1

Myburgh (2003:233)**Educations directions for new Information professionals**.IN:Australian Library Journal Vol.52.Number.3

Nowotny,H.; Scoot, P. and Gibbons, M. (2001)**Re-Thinking Science –Knowledge and the Public in age of uncertainty**.Polity Press

Okello –Obura, C. and Kigigongo- Bukenya, I.M.N(2011) **Library and Information Science Education and training in Uganda: Trends, Challenges and the way Forwad**.IN:Educational Internation Research Vol. 2011.

Roberts, S. and Rowley, J.(2004:24-25) **Managing Information Services**.London:Facet

Sonnenwald, D.H.(2007:642)**Scientific collaboration** .IN:American Review of Science and Technology. Vol.41.

Stone, F.(2004:12) **Deconstructing silos and supporting collaboration**.IN:Employment Relations Today, Vol31.No.1,

Studying research collaboration: A literature review.IN:Sprouts.Working papers on Information Systems, Vol.10. No.3.

Watson,L.(2003)**Elephantoms:Tracking the elephant**.Johannesburg:Penguin;IN:Botha, A.P.(2007:25) Knowledge –Living and Working with it. Cape Town: Mercury.

Xavier, Gorostiaga, S.J. (1999) **In search of the missing link between education and development**.IN: Private Prometheus Private Higher Education and Development in 21ST.Century.Ed Atbach .P.G Boston College: Center for International Higher Education and Greenwood.