Examining the Gap between Employers' Skills Needs and Library and Information Science Education in Zimbabwe

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Abstract

Against a background of constant criticism of library and information schools for not producing quality graduates, a study was carried out to evaluate library and information science curricula in Zimbabwe and this paper is an extract from the research. The paper examines the skills and competency gap that exists between library and information science (LIS) employer needs and curricula in Zimbabwe. Content analysis was used to establish curricula offering in LIS Schools while the comparative method was used to deduce the similarities and differences between the curricula and employment needs. Bloom's (1956) Taxonomy of Objectives was used for analysis of data. Results showed that curricula were not properly covering competencies required by employers. Only 32% of the competencies were properly covered; 32% were not properly covered; while the remaining 36% were not covered at all. It was further shown that curricula covered traditional and core skills of LIS such as cataloguing and classification, abstracting and indexing, and that there was little coverage of the generic and management skills which were in demand in the employment market. The study confirmed that the problem of curricula mismatch with work requirements was a common phenomenon in developing countries. It was noted that failure to address this could see graduates failing to get employment in their own profession.

Keywords: Comparative, Competencies**,** Curricula, Employers' needs, Graduate, Skills, Zimbabwe

1.0 Introduction

Library and information science practitioners have for long criticised library schools for not producing gradutes with attributes that meet their needs. The criticism has always been the intellectual content of the courses which has not kept pace with the demands of the profession (Haider 1998:29). Haider further opined that the absence of proper feedback from industry had also exacerbated the problem to an extent that academics were not always aware of the skills required by the employment market. Audunson (2002:96) also observed that in the near past, the general tendency in LIS education had been one of loosening up the ties with the practical field of librarianship. In Zimbabwe, Chisita (2009:1) noted that curricula offered by polytechnic colleges had been reviewed less than five times since the inception of the course in 1985. He viewed the proportion of syllabi review as inadequate if they were to continue to be relevant and aligned to the dynamism of industry and technological trends. Pfumbidzai (2010:1) observed that LIS curricula in Zimbabwe were flawed, with same content taught for many years without revision or updating, irrespective of the new challenges facing the profession. A discussion by this researcher with LIS students in 2010 at the National University of Science and Technology (NUST) which centred on student internship experience revealed that most of the skills and competencies students acquired during the first two years of the programme did not match work requirements as they were failing to cope with assigned duties. In the end, it was established that curricula in Zimbabwe were not accurately reflecting current professional trends and practices.

1.1 LIS Schools in Zimbabwe

In Zimbabwe, there are four LIS schools run by the Harare and Bulawayo Polytechnics, the National University of Science and Technology (NUST) and the Zimbabwe Open University (ZOU). The polytechnics train students from certificate level to the Higher National Diploma (HND) levels. Chisita (2009:4) propounded, soon they should be offering a Bachelor of Technology Degree Programme. In 2001, NUST began offering an undergraduate programme in LIS and in 2005 it launched a master's programme in library and information science. Chisita (2009:4) states that LIS courses offered at the Harare and Bulawayo polytechnics have a technical orientation since they are supposed to take students through basic LIS theory and practice up to an advanced Bachelor of Technology Degree in information science and a Master of Technology Degree in Information Science unlike the University courses which take students through the Bachelor of Science Honours Degree up to the Master of Science in LIS. The focus of the degree programmes usually emphasises the significance of academic issues as opposed to practical ones.

2.0 A Review of Literature

The problem of curricula mismatch with work requirements was common in developing countries as was shown in studies done in Benin and Senegal- (Megnigbeto 2007); Kenya- (Kavulya 2007); Namibia- (Beukes-Amiss 2006); Uganda- (Ikoja-Odongo 2006). Megnigbeto (2007:158) concluded that LIS curricula in Africa had not changed much since the inception of library schools and consequently curricula were failing to sufficiently address current job market requirements. De Heer (1999) in Thapisa (1999:92) lamented that library schools had not seriously defined what meaningful training African librarians should acquire to make them effective information brokers in light of the peculiar needs of African

communities. For a curriculum to be relevant, it must come to terms with the structure and environment of its running (Mambo 2000:10). It is this aspect that made Nauta (1985) in Mambo (2000) to argue for the relevance of the system theory in the development of the curriculum where emphasis is "the close relation between a structure and its supporting environment".

Ngulube (2006) in Minishi-Majanja (2006:7) regretted the absence of benchmarks and African models even though LIS schools in Sub-Sahara Africa collectively offered what seemed to be an adequate variety of modules. Ainna (2005:1) opined that the main weakness of curricula was that they reflected essentially the curricula of LIS schools in the western world. In Zimbabwe, Hikwa (2004:7) noted that during the period of British occupation, all institutions that were established followed the British pattern hence the education system bore British character. This was deliberately done by colonial powers to transform and neutralize the native way of life but these institutions, by and large, never had much relevance to the aspirations of the native people. This was not surprising because usually "proponents of each ideology and belief system put up curricula that reflect their world view and their notions of what is true and false" (Brent 1978:16).

The question of relevance of LIS training to market needs is addressed by a number of researchers Chifwepa (1999); Arora and Mujoo-Munshi (2000); Mahmood (2003); Rehman (2007). Mahmood (2003) focused on the need to match LIS curricula to market needs and it was found out that there was not even a single LIS school that properly covered the competencies needed in the market in Pakistan. For example, eight of the fifteen competencies in the management category of LIS skills were not properly covered at all. Of these, the skills that were adequately covered included staff management, undertaking library research and time management, extension services, public relations and knowledge management. Mahmood (2009) repeated the same study in Pakistan and discovered that there was a gap between library practice and the contents of LIS curricula in the country due to rapid changes in technology. The study also revealed that graduates of the University of the Punjab, though professionally better in all LIS schools in Pakistan, lacked many required skills. He also observed that various professional positions in the country were vacant due to the unavailability of skilled workers that possessed the required competencies. (Rehman 2007:22) inferred that lack of proper coverage was attributed to the absence of regular curricula reviews that facilitated incorporation of emerging trends in the market place.

Failure to incorporate the requisite skills for digital environments and e-learning technologies in curricula were also shown to lead to discrepancies between curricula and market needs in India (Arora and Mujoo-Munshi 2000:11). Their study found out that while libraries in India were increasingly using services and products based on new information technologies, library schools were slow in restructuring their curricula in light of technological changes taking place. Such a shortfall could be addressed by incorporation of new areas of instruction regularly (Rehman 2007:24).

3.0 Purpose of the Study and Theoretical Framework

The purpose of this study was to inspect the skills and competency gap that existed between employer needs and curricula through an assessment of how LIS training in Zimbabwe succeeds in imparting skills, knowledge and competencies that met the

workplace requirements. To achieve this, data about curricula offerings was collected from library schools in Zimbabwe. Policies, course outlines and course synopses were analysed. Also data about employer needs was collected and used in the study to facilitate the examination.

The whole idea of analysing course outlines and synopses was to generate a list of skills, knowledge, attitudes and competencies found in them. The two polytechnics were combined because they offered the same curriculum run by Higher Examination Council (HEXICO). Blooms' Taxonomy of Objectives (1956) was used to help analyse the course outlines to determine the varying levels of learning outcomes. Bloom (1956) propounded that learning occurs in three domains: affective (growth in feelings or emotional areas); cognitive (mental skills) and psychomotor (manual or physical skills). Bloom further identified different verbs which represent intellectual activities related to each level. According to Wijetunge (2009:678) the key notion of the taxonomy is that, what educators want students to learn at particular academic level can be arranged in a hierarchical manner from less to more complex knowledge using appropriate verbs.

4.0 Methodology

A qualitative design was used in the study. Content analysis and comparative method were used as strategies of inquiry. The study used content analysis to assemble data from LIS schools. Initially, a survey of LIS organisation was done to ascertain the needs of employers. Comparative method was then used to match the employer needs and curricula offerings.

4.1 Procedure in Conducting Content Analysis

The first step was to construction of categories. Categories were constructed along the types of skills offered by curricula as Mahmood (2003) did when he made a comparison of a comparison between needed competencies of academic librarians and LIS curricula in Pakistan. For example, technical skills is one of the categories. The individual units for each category were the minute skills and were derived from models and review of literature. The Double Helix Model of Library and Information Professionals (Hallam and Partridge 2004) which listed skills and competencies in the LIS profession was used. The next crucial step was to test the coding on samples of text and assess their reliability.

4.3 Procedure for Comparison

The procedure for comparative analysis involved four stages namely description, interpretation, juxtaposition and comparison. The first two steps, namely, description and interpretation of the case were done to gain a thorough understanding of employer skills needs. The same steps were also repeated to gain a thorough understanding of curricula offerings. The final two stages namely juxtaposition and comparison followed. Juxtaposition involved listing all endorsed skills by employers on one side and making another list of competences from the curricula on the other side. The next step was a comparison which entailed simultaneous treatment of concepts derived from juxtaposition of curricula and employment needs.

4.4 Presentation and Analysis

Analysis and presentation involved matching the results with curricula to enable examination of the gap that exists between curricula and market needs. An analysis of the curricula for each competency statement was carried out using a three-point scale, showing "proper coverage", "improper coverage" and "no coverage." Each category of skills and competencies were assessed in this format in order to find out the extent of their coverage in curricula where proper coverage was a good match, improper was a bad match and no coverage meant competencies were not part of the curricula. This format was borrowed from (Mahmood 2007:105).

5.0 Results of the Study

Courses offered by library schools were examined to find the skills and competencies they offer to students. The list of courses offered in LIS schools in Zimbabwe is attached on the *Appendices* section of this paper.

5.1 Course Synopses and Courses Outlines Analysis

Course outlines from the four library schools in Zimbabwe were used for the purpose of this study. A review of the course outlines showed that the aims and objectives of the courses were clearly stated in library schools that were offering LIS Degrees. In library schools that were offering Diplomas and Higher Diplomas, the aims and objectives were not clearly articulated and in some cases there were no course outlines for certain courses. Also the expected outcomes in each course were clearly expressed in library schools that were offering LIS Degrees. Those library schools that were offering National Diplomas and Higher National Diplomas fell short of providing expected outcomes.

Most of the course contents were not addressing the affective (growth in feeling and emotional areas), cognitive (mental strength) and psychomotor (manual and physical skills) as provided by the Blooms' Taxonomy Objectives (1956), the widely used classification in setting learning goals (Wijetunge 2008:677). Most of the reading lists were traditional and out dated in all library schools. This meant that the resources that were provided by the schools did not enable students to meet the level of achievement required. This situation also explained why employers were not happy with the practical skills (in the case of university graduates) and theoretical knowledge (in the case of polytechnics graduates) of the students.

Analyses of course contents disclosed that library schools at polytechnics had a course with reference to an African aspect of librarianship namely, *Afro-centric Librarianship*. Whilst this was a positive step, their counterparts in universities did not have such courses. This meant the curricula in universities did not take into consideration particular environments of their application, government policies on education, and needs of the society at large as proposed by Mambo (2000). This was thought to neglect peculiar needs in an African set-up. Some of the schools did not have written guidelines on teaching methodology.

5.2 Coverage of the Skills and Competencies by LIS Curricula in Zimbabwe

Table 1 shows that most of the technical skills had a weak coverage of the employment needs, although classification and cataloguing of printed materials were properly covered by all schools. Indexing and abstracting were properly covered by one school and the other schools had an improper coverage of the skills, despite the

fact that the skills attracted a high rating from employers. Cataloguing of online materials, and metadata, and copy cataloguing using bibliographic utilities had no coverage in any of the schools. This showed that LIS curricula were still offering manual skills in the technical skills area yet it was evident from the current study that most organisations were now operating in a hybrid environment where manual work was performed alongside computerised work. This explained why students were complaining that they were finding it very difficult to apply skills they were taught in their respective schools to the work place.

Table 1: Coverage of Technical Skills in the Curricula

Skill/Competence	Rating Averages	School A	School B	School C and D
Classification	4.97	PC	PC	PC
Cataloguing of online sources	3.58	NC	NC	NC
Cataloguing of printed material	3.81	PC	PC	PC
Acquisition of serials online	3.86	IC	IC	IC
Acquisition of printed serials	3.83	PC	PC	IC
Mata data	3.39	NC	NC	NC
Indexing and abstracting	4.47	PC	IC	IC
Copy cataloguing (using bibliographic utilities such as OCLC, Bibliophile)	3.47	NC	NC	NC

Key: PC= Proper Coverage; IC= Improper Coverage; NC= No Coverage.

Table 2 shows that resources development competencies had good coverage compared to technical skills. Collection development policy formulation, understanding publishing process and distribution of books, and assessing books were properly covered by all schools. The weighting (rating of 4) given to preservation and conservation, weeding and selection by employers showed that curricula were not giving these skills the coverage they deserve. Analyses of course outlines indicated that these competencies did appear in certain courses but these courses were valued at the work place. This implies that they deserved to stand as individual courses. This connected well with the views of lecturers at polytechnics who indicated that more courses should be added to curricula if they were to properly cover the skills and competencies required by employers.

Table 2: Coverage of the Resources Development Competencies in the Curricula

Skills	Rating Average (Employer)	School A	School B	School C and D
Developing collection development policy	4.36	**PC**	**PC**	**PC**
Preservation and conservation	4.17	IC	IC	IC
Weeding and selection	4.03	**IC**	**IC**	**IC**
Understanding the process of publishing, printing and book distribution	3.44	**PC**	**PC**	**PC**
Assessing book sellers	3.39	**PC**	**PC**	**PC**
International standards	3.97	**NC**	**NC**	**NC**
Intellectual property and copyright	3.97	**IC**	**IC**	**IC**

Key: PC= Proper Coverage; IC= Improper Coverage; NC= No Coverage

Table 3 shows that the coverage of reference and information service competencies was very weak. Online reference interview skills, information product evaluation, development of specialised information services, such as selective dissemination of information (SDI), vertical filers, content page clips were not covered by all the library schools.

Information literacy was covered by one school only. Another school covered online searching. Needs assessment, user support, developing policies for reference, user education on literature though covered by all schools in some courses, they were improperly covered given the value attached to them by employers. However, research skills, legal issues, reference sources, and face-to-face reference interviewing were adequately covered. Four out of the fourteen reference and information competencies were properly covered and the rest were either improperly covered or had no coverage at all.

Table 3: Coverage of the Reference and Information Services Competencies in Curricula

Skills	Rating Average (Employers)	School A	School B	School C and D
Reference sources	4.44	PC	PC	IC
Electronic (online and CD-ROM searching using search strategies)	4.08	PC	IC	NC
Face to face reference Interviewing	4.47	PC	PC	PC
Online reference interview	3.86	NC	NC	NC
Information product evaluation	4.36	NC	NC	NC
Needs assessment	4.58	IC	IC	IC
User support	4.69	IC	IC	IC
Developing policies for references and information services	4.28	IC	IC	IC
Developing specialised information services like SDI, vertical files, content page clippings, bulletin , referral	3.64	NC	NC	NC
Resources sharing and cooperation	3.78	IC	IC	IC
User education on literature and products e.g. handbooks	3.72	IC	IC	IC
Information literacy instruction	4.11	NC	PC	NC
Research	4.58	PC	PC	PC
Legal issues	4.03	PC	PC	NC

Key: PC= Proper Coverage; IC= Improper Coverage; NC= No Coverage

In the category of information technologies competencies, all the basic skills such as electronic mailing, internet use, intranet management, data communication, and database designing were properly covered in all schools as shown in Table 4. However, advanced skills, such as designing local area network (LAN) and wide area network (WAN) and their maintenance, digitisation of documents, in-house CD-ROM publishing, intelligence gateways, distributed systems, artificial intelligence, and software engineering, were either improperly covered or had no coverage. Automation was properly covered by one school, while designing and developing web-based materials was coved by only two schools. It was concluded that information technology skills had a weak coverage in curricula as more than three quarters of the skills were inadequately dealt with by curricula at all schools. It was

deduced that lack of competent lecturers in the area of IT could have been the reason why students were taught only basic IT skills such as emailing and typing.

Table 4: Coverage of the Information Technology Competencies in Curricula

Skills	Rating Average (Employers)	School A	School B	School C and D
Electronic mailing	4.61	PC	PC	PC
Internet use	4.56	PC	PC	PC
Intranet management	3.72	PC	IC	PC
Imaging	3.28	NC	NC	NC
Software engineering	3.03	NC	NC	NC
Artificial intelligent	3.03	NC	NC	NC
Data communication	3.53	PC	IC	PC
Distributed system	3.19	NC	NC	NC
Broadcast technologies	3.33	NC	NC	NC
Intelligent gateways	3.06	NC	NC	NC
Electronic publishing	3.42	IC	IC	IC
In-house CD_ROM publishing	3.56	NC	NC	NC
Converting cataloguing, circulation, acquisition from manual to automated mode	3.50	PC	NC	NC
Managing automated system(input data, file maintenance, back up, security)	3.44	PC	NC	NC
Designing and developing web-based materials and document for online use	3.97	PC	NC	NC
Designing LAN and WAN	3.61	IC	IC	NC
Designing and maintenance of in-house databases	3.81	PC	PC	PC
Digitization of documents	3.83	NC	NC	NC
Planning of automation	3.36			
Evaluation of automated system	4.00	PC	NC	NC

Key: PC= Proper Coverage; IC= Improper Coverage; NC= No Coverage

Management competencies had a very weak coverage in curricula despite their demand in work place. All competencies and skills except for human resource

management and supervision had an improper or no coverage. Knowledge management was covered by one school, which also covered statistical analysis and strategic management.

Competencies to do with budgeting, accounting, auditing, public relations and change management had no coverage. This was surprising because a survey of employers indicated that after generic skills, management skills were the second most highly-valued competence but when it comes to coverage in curricula, it was the least covered. Perhaps the confusion among scholars, educators and professionals in general in classifying management skill as either a generic or discipline knowledge skill explains why management did not farewell in the curricula. In one school, management was taught by lecturers from another department, an indication that it was not regarded as a core LIS skill. However, in the literature, management was classified under the core discipline knowledge of LIS. This left educators in the dilemma of how they were to treat management competencies in curricula.

Table 5: Coverage of Management Competencies in Curricula

Skills	Rating Average (Employers)	School A	School B	School C and D
Leadership	4.78	PC	NC	NC
Public relations/understanding stakeholder needs	4.69	NC	NC	NC
Budgeting and fiscal management	4.56	NC	NC	NC
Supervising	4.61	PC	PC	PC
Data collection and statistical analysis	4.64	IC	PC	IC
Evaluating organisation's performance	4.67	IC	IC	IC
Strategic management	4.67	NC	PC	NC
Knowledge management	4.64	NC	PC	NC
Human resources management	4.53	PC	PC	PC
Change management	4.67	NC	NC	NC

Key: PC= Proper Coverage; IC= Improper Coverage; NC= No Coverage

Under the generic capabilities, as shown in Table 6, comparison of validated competencies and curricula revealed that curricula were not covering these skills properly. Team work, critical thinking, self-management, negotiating skills, report writing, and customer service, though they were highly valued employers, were improperly covered in curricula. Experience in the form of industrial attachment was offered in three schools and was done over a period of one year. This was considered proper coverage even though one school was not providing it. Time management, planning, ethics and social responsibility were covered by one school

or another. Communication skills, entrepreneurship, and marketing had proper coverage in all schools. As a result three of the twenty generic skills had proper coverage. This was the case despite the fact that generics skills were ranked top by employers. However, literature reviewed indicated that generic skills were difficult to incorporate in the curricula but that lecturers can do a lot to impart them in the classroom by introducing activities that nurture such skills.

**Table 6: Coverage of the Generic Skills in Curricula**

Skills	Rating Average (Employers)	School A	School B	School C and D
Team work	4.81	IC	IC	IC
Ethics and social responsibility	4.61	PC	IC	IC
Problem solving and critical thinking	4.53	IC	IC	IC
Business acumen/entrepreneurship skill	4.28	PC	PC	PC
Self-management	4.69	IC	IC	IC
Teaching skills	4.44	NC	NC	NC
Marketing and promotion	4.69	PC	PC	NC
Customer service	4.86	IC	IC	IC
Time management	4.64	NC	PC	NC
Project management	4.53	NC	PC	NC
Presentation skills	4.67	PC	PC	NC
Communication skills (verbal and writing	4.78	PC	PC	PC
Interpersonal skills	4.67	IC	IC	IC
Experience	3.97	PC	NC	PC
Negotiating	4.31	IC	IC	IC
Persuasive	4.42	IC	IC	IC
Report writing	4.44	IC	IC	IC
Creativity/innovation	4.47	IC	IC	IC
Planning	4.58	NC	PC	NC

Key: PC= Proper Coverage; IC= Improper Coverage; NC= No Coverage

5.3 Overall Coverage of Skills and Competencies required by Employers in Curricula

Figure 1 shows the total coverage of all the endorsed competencies in the curricula of all the LIS schools in Zimbabwe. Thirty two percent (32%) of the competencies had a proper coverage in the curricula. Another 32% indicates that some skills and competencies had improper coverage. The remaining 36% of the competencies were not covered at all in curricula.

Figure 1: Coverage of the Skills and Competencies in Curricula
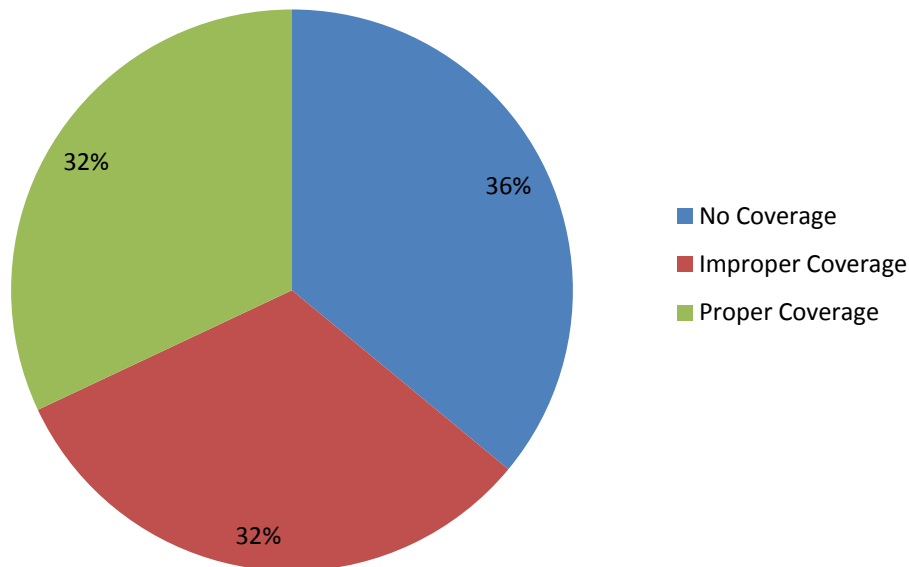
The coverage demonstrated that LIS curricula in Zimbabwe were not meeting the demands of the job market. The analysis of courses contents indicated that the content was traditional; there was no room for specialising in certain areas such as school librarianship and special librarianship although some of the schools were offering some of these courses. Curricula also lacked the depth and breadth of subject areas. These findings were similar to those of Mahmood (2003) in Pakistan who found out that 36% of the validated competencies were not covered in curricula while 30% had an improper coverage and 34% had a proper coverage.

A study by Saroja (2007) in India found out that management skills, technical skills and resource building skills were properly covered. There was an improper coverage of areas such as IT, and generic skills. Therefore, the assertion by Megnigbeto (2007), after carrying out studies in Segal and Benin, that curricula mismatch with workplace requirements was common in developing countries was to a large extent true, as the current study produced results to support the claim. This was also confirmed by the literature that the researcher managed to access, no study on evaluation or comparison of the validated competencies with LIS curricula in developing countries had found a positive correlation between curricula and the workplace demands. Although it is acknowledged that it is difficult to meet the demands of every employer on the market, an effort to cover more of their needs might prove helpful for graduates in the end.

6.0 Recommendation

LIS schools in Zimbabwe should review and redesign the curricula in line with market requirements. Emphasis should be given to IT, management and information service that would give graduates a competitive edge in the labour market, by making them competent in the work place. The use of System Theory in the curriculum development is recommended. When a system is defined as a complex of interacting elements then a curriculum can be viewed as point of interaction with its stakeholders. With system thinking one looks to see structures that underlie complex situations that are both the parts of the system and the relationships between them.

7.0 Conclusion

Although different categories of skills had little coverage in curricula, the extent of the coverage demonstrated that LIS curricula in Zimbabwe were not properly meeting the demands of the job market. The reason given for this was that curricula were outdated, very narrow and lacked alignment to the needs of the employment market. No study on evaluation or comparison of the validated competencies with LIS curricula in developing countries had found a positive correlation between curricula and the workplace demand. While it is acknowledged that it is difficult to meet the demands of every employer on the market, it was concluded that curricula should have more coverage of the required competencies by employers if they were to be regarded as providing proper training to enable LIS graduates to compete with other professionals on the market. LIS schools in Zimbabwe should review, broaden and redesign their curricula in line with market requirements. Emphasis is to be given to IT, management and information service that would give graduates a competitive edge on the labour market, at the same time making them competent in the work place.

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Appendices

Appendix 1: LIS Courses and Skills Offered in Polytechnics in Zimbabwe

Table 1: National Certificates Courses (1 year)

Course	Skills, Knowledge and Competencies Offered
Library Operations and Procedures	General knowledge of operational and procedures in libraries
Libraries in Society	Understanding the role of libraries in society
Introduction to Organisation of Knowledge	Classification and cataloguing skills
Reference Services and Information Sources	Reference skills
Communication	Communication skill
Introduction to Computers	Computers skills
National and Strategic Studies	Not clear
Entrepreneurship Skills Development	Entrepreneurial skills

Table 2: National Diploma, Level 1 Courses and skills offered (1 year)

Courses	Skills, Knowledge and Competencies Offered
Data Communication and Networks in Libraries	Networking skills
Cataloguing 1	Cataloguing skills
Classification 1	Classification skills
Library Management 1	Management skills
Collection Development and Reference Services	Collection development skills
Records Management	Records management skills

National Diploma, level 2 (1 year)
Industrial attachment

Table 3: National Diploma 3 Courses and Skills offered, level 3 (1 year)

Courses	Skills, Knowledge and Competencies Offered
Cataloguing II	Cataloguing skills
Classification II	Classification skills
Library Management II	Management skills
Production and Publishing	Publishing skills
Research Methods and Statistical Procedures	Research skills

Table 4: Higher National Diploma Courses and Skills offered (1.1/4 year)

Courses	Skills, Knowledge and Competencies Offered
Afro-centric Librarianship	Understanding librarianship in an African set up.
Records and Archival Administration	Records and archival administration skills
Human Resources management	Human resources skill
Information Brokerage	
Database Design	Database design skills
Research Project	Research skills

Appendix 2: LIS Courses and Skills offered in Universities in Zimbabwe

School A

Table 5: Semester One Courses and Skills offered (PART I)

Courses	Skills and Competencies offered
Introduction to Information Technology I	Computer skills
Collection Development and Management	Collection development skills
Communication Skills	Communication skills
Automation of Library Processes	Automation skills
Communication and Media Theories	Media skills
Peace, Leadership and Conflict Transformation	Soft skills
Organisation of Knowledge I	Cataloguing and classification skills

Table 6: Semester Two Courses and Skills offered

Course	Skills and Competencies offered
Information Sources and Services	Reference skills
Information Retrieval Systems	Information retrieval skills
Applications of Information Technology Tools in Libraries and Archives	Application of technology skills
Organisation of Knowledge II	Cataloguing and classification skills
Computerised Documentation Systems/ Information Systems for Information Services (CDS/ISIS)	CDS/ISIS database design competence
e, Leadership and Conflict Transformation	Leadership skills
Information and Society	Understanding the role information in society

PART II

Table 7: Semester One Courses and Skills offered

Course	Skills, Knowledge and Competencies Offered
Legal and Professional Issues	Legal capabilities
Production and Publishing of Information Media I	Publishing skills
Principles of Management	Management skills
Indexing and Abstracting	Indexing and abstracting skills
Information Management in the Health Services	Management of information skills
Online Information Retrieval	Retrieval skills

Table 8: Semester Two Courses and Skills offered

Course	Skills and Competencies offered
Database Applications in Archives, Libraries and Publishing	Database Design Skills
Research Methods and Statistics	Research skills
Archival and Library Information Systems Management	Systems management
Design and Realisation of Internet Information in Library and Archives	Website designing skills
Management of Libraries	Management skills

PART III

Industrial Attachment

PART IV

Table 9: Semester One Courses and Skills offered

Course	Skills and Competencies offered
Marketing of Information Products and Services	Marketing skills
Comparative Librarianship	Comparative skills
Publishing Management: Advanced Theory and Practice	Publishing management skills
Human Resources Management	Human resources management skills
Entrepreneurship	Entrepreneurship skills

Table 10: Semester Two Courses and Skills offered

Course	Skills and Competencies offered
Project	Research skills
Academic Libraries	Academic librarian competencies
Public Libraries	Public librarian competencies
Children's Libraries	Children's librarian competencies
School Library Media Centres	School librarian competencies
Special Libraries	Special librarian competencies

School B

Table 11: Part I Courses and Skills offered

Course	Skills, knowledge and competencies offered
Information Science	Understanding information science as a field of study.
Information Literacy Skills	Information literacy skills
Cataloguing and Classification 1	Classification and cataloguing skills
Introduction to Computers	Typing skills,
Reference and Information Science	Reference skills
Communication Skills	Communication skills
Information and Society	Understanding of social function of libraries and other information related skills
Collection Development and Management	Collection development skills

Table 12: Part 11 Courses and Skills offered

Course	Skills and Competencies offered
Management of Libraries and Information Centre	Management skills
Information and Records Management	Information management skills and competencies
Information Retrieval and Database Management Systems	Information retrieval skills and database design skills
Human Resources Management	Human resources management
Cataloguing and Classification 11	Classification and cataloguing skills
Management of Electronic Records	Electronic records management skills
Production and Publishing	Publishing skills
ICT Tools and Applications for Information Centres	Internet, list serve, gopher etc

Table 13: Part III Courses and Skills

Course	Skills and Competencies offered
Comparative and International Librarianship	Comparative knowledge
Administration of School Libraries Media Centres	Administration skills
Indigenous Knowledge System	Skills of serving ethnic cultural minority
Knowledge Management	Knowledge management skills
Information System, Policy Analysis Design, Implementation and Evaluation	Information system design
Advocacy and Marketing Work in Library and Information Centres	Marketing skills
Research Methods	Research skills
Statistics for Librarianship	Statistical competency

Table 14: Part IV Courses and Skills offered

Course	Skills, Knowledge and Competencies Offered
Legal Issues in Library and Information Science	Legal competency
Management of Special Publication	Management of govt documents
Practicum in Library and Information Management	Practical in management
Research Project	Research skills
Infopreneurship	Entrepreneurship skills
Strategic Information Planning and Development	Planning and development competencies