Review and Revision of Library and Information Science Curriculum in a South African University and the Usage of Follow -Up Study and Advertisement Scanning Methods

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Abstract

Two methods for curriculum review and revision are used to review and revise the Library and Information (LIS) curriculum at the University of Zululand, South Africa. Firstly, as an exercise in product analysis, a case study of the graduates of the University of Zululand between 1996 and 1999 was conducted. Graduates were traced to their current places of employment and interviewed together with their employers in order to determine whether the knowledge, skills and attitudes gained during training were adequate for their current job requirements. Secondly, a market-type analysis was conducted by scanning job advertisements in the field of library and information science appearing in a popular national weekly newspaper over a period of three years. Details regarding date and location of advertisement, type of employer, job details and job specifications and requirements in terms of qualifications, experience, knowledge, skills and attitudes were captured from this source and analysed. Whereas the aforementioned two methods still enjoy popularity, arguably, they alone do not necessarily provide an accurate picture of the demand and supply matrix that can enhance effective and beneficial LIS education for service and employability of graduates. Evidently, the public sector and in particular the public and academic libraries, dominate this specific segment of the employment market in South Africa. Sound education in the fields of management, information and communication technologies, information searching, analysis and synthesis, as

well as the ability to perform practical work is regarded as essential. The use of the aforementioned two methods exploits techniques which play a crucial verification role and which effectively supplement other methods such as reviewing existing curriculum and literature, consulting with colleagues and observing national and international trends as well as the focus-group method for academic programme development. Other intervening variables in the study are discussed. The paper addresses issues that can benefit theoretical and methodological issues in library and information science education and curriculum development.

1. Introduction

A curriculum is a fundamental part of any education or training programmes largely because it provides not only a list of courses or modules offered in a programme, but it also gives information on content, purpose, method, time/duration, trainers and location or situation of a programme or course - all of which are essential in a successful dispensation of manpower training and education.

The purpose of this survey was to enable the Department of Library and Information Science to review and revise its curriculum by analysing the strengths and weaknesses of the degree programme through product and market survey and analysis. In order to achieve the aforementioned goal, the following objectives have been pursued. Firstly, to solicit views from graduates (bachelors, higher diploma and masters in library and information science: 1996-1999) on the strengths and weaknesses of the degree programmes and the suitability of knowledge, skills and attitudes obtained from their study programmes as applicable to their job requirements. Secondly, to solicit views from the employers of LIS graduates on whether the employees met their job requirements and whether there were gaps in the employees' knowledge, skills and attitudes in the work activities that might be attended to by the department. Thirdly, to scan newspapers for LIS-related job advertisements applicable to knowledge, skills and attitudes required by employers or the market. Fourthly, to

review the practical suitability of follow-up study and advertisements scanning that could assist in curriculum review and revision in library and information science. The final objective was to show how the outcome of the study had been used to revise and review the LIS curriculum at the University of Zululand.

Job opportunities for librarians in the traditional market have insignificant growth in South Africa. The growth and development of public libraries in the townships that were neglected by the apartheid regime promised short-term avenues for graduate employment. School library development has declined despite the introduction of the Outcome-Based Education (OBE) Policy that advocates learner and resources based education for primary and secondary schools. Policies currently being implemented in South Africa promised new job opportunities in school libraries and media resource centres but this has not materialised. The nature and size of information-related job prospects in the public and corporate sectors, apart from public and academic libraries, is not readily known while those known do not reflect signs of reliable growth as their publicity remain obscure.

There are 18 LIS departments in South Africa's' tertiary educational institutions today. Thirteen are located within the universities while five resort under technikons/polytechnics. A large number of these institutions provide the same or overlapping education particularly at undergraduate levels. However, the annual manpower output from the 18 institutions is small. The need for market diversification and job opportunities in the market has forced new thinking in LIS education in South Africa and LIS departments are engaged in survival driven change that includes curriculum review and revision for the new challenges. It is worthwhile to observe that the on-going academic restructuring process in tertiary institutions and at other educational levels in the country has offered a golden opportunity for those who favour change in the academic dispensation. As a result, we have noted convergence and divergence of programmes, diversification and active curriculum review.

The following models in LIS education are prevalent in South Africa. Firstly, we find departments with hybrid programmes at undergraduate and graduate levels such as the Universities of Potchestroom, Transkei, the North, Pretoria, South Africa (for distance learning) Western Cape and Zululand. Secondly, there are departments that largely offer graduate programmes such as the Universities of Natal and Cape Town. In the third instance, there are those that have abandoned library science in favour of information science such as the University of Orange Free State, Rand Afrikaans University and the University of Stellenbosch. A fourth group are those that have merged with related disciplines such as the University of Orange Free State and Fort Hare. Finally there are institutions that offer vocation oriented programmes primarily at undergraduate level such as the technikons (see appendix one). Although many arguments, especially from the employers' point of view, favour vocation-driven education as traditionally offered by technikons, university education is undergoing painful transformation towards outcome based education that is aimed at producing self-reliant graduates. Educational institutions located in large metropolitan cities such as the Universities of Pretoria and the Rand Afrikaans University have already developed successful short course programmes in the broad information disciplines that are vocationally oriented. Colleagues in humanities and social sciences are increasingly challenged to show the relevance of their disciplines to market needs and for the self-reliant graduate. Whether we will be safe in our traditional profession - librarianship - by giving it a new face (cybrarianship, hybrid, digital, electronic or virtual libraries) or by courageously exploring the turbulent, often amorphous and highly competitive field in the name of 'emerging professions or markets' seems to be an open question. I want to believe that our definition of the market and interpretation of convergence and divergence will be well thought of to dictate the decision on the suitable option to be taken for LIS education in the future.

2. University of Zululand

The University of Zululand was founded in 1960 and is situated at KwaDlangezwa, approximately 150 km north of Durban. This is one of the 20 public universities in South Africa. The student population, which is almost entirely African South Africans, has declined by almost 100% as against five years ago when student numbers stood at about 8000. This enormous decline is largely due to unfavourable conditions, including physical location and instability but also because of competition for student admission among the 20 public universities in the country. The official university language of communication is English although the student and staff population speaks several South African languages, dominated by IsiZulu and Afrikaans. The University currently employs a total of 692 members of staff on its two campuses (the Durban-Umlazi extramural Campus was established in 1979) including 277 teaching staff. The student/staff ratio is approximately 6:1 overall and 14.1 for teaching staff. The university's academic programmes are conducted in 6 faculties and 50 teaching departments. The mission of the university is to provide tertiary education and to pursue knowledge, which serves the needs of the country in general and those of the surrounding communities in particular. The Department of Library and Information Science resorts under the Faculty of Arts, the largest Faculty at the University of Zululand consisting of 18 academic departments. In 1999 it represented 38% of the overall student enrolment, 42.9% of the total number of the students graduating at the University and 40% of the teaching staff of the University.

The Department of Library and Information Science is one of the oldest teaching departments at the University. In 1968 the lower Diploma in librarianship was introduced in the Faculty of Arts without any reference to a particular department and the first two students were enrolled in the pioneer programme. The Department of Library Science was founded a year later and the degree of Bachelor of Library Science was introduced. The degree of Honours Bachelor of Library Science was introduced in 1973, the Higher Diploma in Library Science in 1978, and the Masters degree in Library Science in 1984. The Diploma in

Specialised Education: School Library Science was introduced in 1990. Information Science was added to the curriculum in 1980, becoming a separate course in 1982. In 1988 the name of the Department was officially changed to the Department of Library and Information Science. In June 1997, the degree of Doctor of Philosophy (Library and Information Science) was introduced. The student enrolment figures for the courses offered by the department have been high and stable. For instance, the numbers were 754,1996; 913,1997; 897,1998 and 878, 1999. The number of LIS graduates for the period is not large (approximately BLIS-42, BLIS (Hon) -11, MLIS- 3, PGDLIS - 16 while DSLS- 28) (approximation is made to account for the students whose names do not appear in official graduation list because of non -fee payment.). The improved student enrolment guarantees the viability and stability of the department. However, the existence of the other 18 LIS departments and several related training programmes as reflected in appendix two offer competition-based challenges to this assumed stability. Furthermore, the declining overall intake of students at the university is a cause for concern.

Up until the end of this year, candidates for the Bachelor of Library and Information Science degree major in Library Science and Information Science (of which Library Science is a four-year major) as well as in one other degree subject. During the entire period of study at the Department, students are expected to enrol for 14 courses in the two major areas as well as 14 courses selected mainly from other degree programmes in the Faculty of Arts, but also offered by other faculties. Library and Information Science is also recognised for other bachelor degree purposes. As from the year 2001, the university will change from a semester system to a modular/term system with emphasis on programme based education. The department, together with related disciplines, will offer 64(512 credits/5120 notional hours) modules in BLIS and 48 (384 credits/3840 notional hrs) in BA (information Science) programmes. This will imply that only those enrolled into the programmes can take them as majors (refer to location: http://hruzulu.uzulu.ac.za/~m_dss/university_modules)

2.1 Related Studies

A large number of studies and publications on manpower issues need assessment as curriculum development in library science and information science are reflected in various bibliographical databases that were accessible to this author (EBSCO, BUBL, LISA etc). Follow-up studies enjoy popularity for training needs assessment. This is illustrated by an analysis of the BUBL Journals database (Location: http://bubl.ac.uk/journals/lis/ with 156 LIS journals and 6769 records. Early this year it provided 11 matches with ' follow up study'. Out of those 11 articles, eight (Rugambwa 1998, Quarmby et al 1999, Schumm 1994, Loughridge et al 1996, Holland and Powell 1995, Agada 1994, Detlefsen 1996, Banwell 1996) have used follow up studies for training needs assessment with bearing on curriculum. The use of product/graduate and market/employer surveys for suitable curriculum development is gaining momentum in Africa. Evidently, follow-up studies of graduates for curriculum review have been conducted by Anadiran in Nigeria (1988), Alemna (1991) and Kisiedu in Ghana (1993), Rosenberg in Kenya (1989 and 1994), Aswegen in South Africa (1997), Rugambwa in Ethiopia (1998) and Aina in Botswana (1999). Although these studies were conducted during a long time span, they all revealed that libraries are the biggest employers of the graduates and that the outcome of such surveys was invaluable to curriculum review. There are those ' technophobes' who have undergone drastic restructuring involving name change and have taken a multidisciplinary approach to the academic dispensation. Furthermore, they have developed an admirable ' hybrid' LIS curriculum that fully recognises convergence's and divergences in LIS manpower training needs (Marcum1997). Evidently, such restructuring must come with funding, staff, new teaching methods and focus on hybrid information oriented job environments where a multiplicity of knowledge skills and attitudes are required and valued.

The scanning of job advertisements in newspapers for the purpose of determining manpower training needs and employment requirements does not

seem to feature in popular library and information science literature as witnessed in the databases scanned. This trend may raise speculative discourse on whether the method is relevant and effective for manpower needs analysis. Naturally, without a law enforcing the advertisement of vacant positions publicly, employers, while saving on newspaper space, provide limited information on job description and requirements. I doubt whether this method may not be at all be satisfactory. In South Africa, the use of the two methods is not reported (besides Aswegen's article) in any scientific journal that had come to my knowledge. This observation however, does not suggest that the methods are not used at all. Despite the small number of publications originating from studies on the two methods, results originating from aforementioned studies including in the current study confirm their effectiveness for curriculum review and revision.

2.2 Methodology

There are several methods that can be employed for curriculum development. Many reported cases are based on both quantitative and qualitative research designs. A popularly used method includes, in the first place, a follow-up/tracer study of products, or in this case, graduates of a programme. Graduates are traced to their current places of employment and interviewed or respond to questionnaires, together with their employers or 'bosses', to determine whether the knowledge, skills and attitudes gained during training are adequate for the current job requirements. The supplier/ educator or trainer involved in the revision of the curriculum and syllabus and in improvement of the quality of the product or trainee then uses information received from this market or demand analysis. Questionnaires are often used with quantitative or, depending on their structure, a mixture of quantitative and qualitative research design. Secondly, focus groups have received acceptance as an autonomous research method and have been used for the preparation and conclusion of a major qualitative research (Kerslake & Goulding 1999). There is evidence that the method can be applied for LIS curriculum surveys(Curran, Baijjaly, et al 1998). A third method involves the scanning of advertisements in newspapers in order to determine the

job-related training that is required by the potential employee. In this method details regarding date and location of advertisements, type of employer, job details and job specifications and requirements in terms of qualifications, experience, knowledge, skills and attitudes are captured and analysed. A fourth method involves reviewing the existing curriculum, standards and literature. The final method involves consulting with colleagues and observing national and international trends. One or more of the aforementioned approaches may be used depending on the context. Although it could be argued that it is expensive and time consuming to plan a curriculum based on adequate market analysis and needs assessment, such a method provides a good indication of the training needs in a given social context, if it is done properly.

This survey population consisted of three categories, comprising 42 bachelor of library and information science students who graduated between 1996 and 1999, 16 Higher Diploma/Postgraduate Diploma Library and Information Science students graduating between 1996 and 1999 and three Masters students produced during the same period. The following responses were received from the graduates: 25 BLIS, 4 PDLIS, 1 masters graduate that provided 30 (50%) of total population targeted. The second category consisted of 20 employers or ' bosses' of the graduates who were interviewed. Some employers engaged more than one of the graduates in their employ. Eight of them were interviewed. The final category consisted of all advertisements that listed library and information science as a job requirement. The advertisements appeared in the Sunday Times weekly newspaper from 1996 to 1998. Only advertisements appearing in the paper in 1996 have been scanned and analysed for this presentation. A product and market analysis was conducted, using qualitative design for curriculum review. Methodologies employing scanning of advertisements and follow-up studies, such as successfully applied to develop context and market oriented curricula by Moore in the UK and Singapore (see Rosenberg,1989 and Moore1987) and Diana Rosenberg and others including this author for LIS curriculum at Moi University in Kenya (1989 and 1994), have

been replicated. Details regarding date and location of advertisements, type of employer, job details and job specifications and requirements in terms of qualifications, experience, knowledge, skills and attitudes were captured and analysed.

In the second instance, a follow-up study was employed for both product and demand analysis The following categories of graduates were traced to their current places of employment and interviewed together with their employers or superiors/ ' bosses' , to determine whether the knowledge, skills and attitudes gained during training were adequate for the current job requirements: those who hold a four-year bachelor of library and information science degree or its equivalent; postgraduate/graduate diplomas in library and information science that accommodates bachelor degree holders from other disciplines to gain admission to professional qualifications in library and information science after one year/fourth level study in South Africa as well as those who obtained masters qualifications from 1996 - 99. A framework interview with the graduates required them to provide background information about themselves and place of work, employment history since graduation, current employment and future development. Quite closely related, the interview with employer/superior set out to find background information on the nature and type of organisation, job details of the employee, evaluation of the employee and, finally, future plans with regard to the employee and information manpower needs. Based on the successes of the two methods elsewhere, it was assumed that the information obtained would be adequate to supplement other existing information that could help the curriculum developer (the supplier/ educator or trainer) to revise the curriculum and syllabus and improve the quality of the product or trainee and, ultimately, provide a better product to the information industry.

Data on advertisement scanning was recorded onto a prescribed score sheet in as many times as each respondent mentioned them. Frequency was noted and summarised on tables and discussed. Interviews with both employee and employer representatives were recorded, some taped, and later transcribed.

Responses were then recorded on a specially designed score sheet consisting of a table of two columns. Research questions recorded in the right column and answers recorded in the left. All responses were recorded as many times as they were mentioned for the determination of frequency and summation in tables and discussions. Data gained from the three methods were discussed in order to digest and ' vibrate' the results. The results were then used to verify and review the existing curriculum. The observation of the job environments during the interview visits proved to be extremely useful for verifying the data. The methodology has been found adequate and the results useful.

3. Results

Three categories are reported in this section. Firstly, results from an interview with University of Zululand Library and Information Science graduates. Secondly, outcome of interviews with employers/superiors of LIS graduates and finally, the results from newspaper scanning on LIS jobs. The results are presented as they are without discussions in this section for purposes of rapid presentation and economy on space. Information presented is self-explanatory.

3.1 Interviews with the University of Zululand LIS Graduates

Approximately 50% of the targeted population responded. Results are provided in four subsections, background information, and employment history since graduation, current employment and finally future development.

3.1.1 Background Information of LIS Graduates

Table 1 provides the summary.

Table 1: Background information of LIS graduates. (N= 30)	
NAME	Noted
Address	Noted
Type of Employer	• 17 (56.6%) - Public sector/Transitional Local Councils- public libraries • 6 (20%) - Academic institutions/university- academic libraries

	- 4(13.3%) - Private and public sector - special libraries - 3(10%) - Unemployed
Job designation	- 9 (26.6%) - librarian - 8 (26.6 %) - library assistant - 5 (16.6%) - assistant librarian - 3(10%) -unemployed - 2 (6.6 %) -voluntary work - 1(3.3%) - senior - 1(3.3%) - communication officer - 1(3.3%) - sales consultant
Date of Employment	Recorded to establish the interval between date of graduation and date of employment
Salary in South African Rand (one Rand = 6.35 US$ at March 31 2000) Note: The figures reflect basic salary only. Salary of Senior librarian not provided.	- Mean - R5357 (US$843) , Average - R3500 (US$ 551) - Range R1600 - US$ 251(library assistant) to R6500-US$1023(librarian) - Library assistant - 3000 - Assistant librarian - 3500 - Librarian from 5000
Date of Graduation	Recorded for the purpose of determining the number of graduates in a particular year. (Noted that the list of graduates is based on those who owe the university no fees and whose names are listed for graduation. This list may not account for a graduate

	who settles his/her debt with the university and hence demand the degree certificate the next day)
Title of Degree	- 26, Bachelor in Library and Information Science - 4, Higher Diploma in Library and Information Science or PGDLIS - 1, Masters in Library and Information Science

Most graduates secured jobs in public sector, transitional local councils in public libraries as librarians. Employment in private sector is insignificant.

3.1.2 Employment History Since Graduation

Table 2 summarises the results.

Table 2(a): Employment history since graduation	
Number of applications made	- Several - approximately 20 - Generally range from 1 - 50

Whom made	- Mainly public sector particularly the local government
	
	- Private sector register insignificant applications.
	Details in order of the quantity of applications made:
	
	   o Public libraries
	
	   o Academic libraries
	
	   o Special libraries,
	
	   o Museum
	
	   o Others:
	
	   o Schools,
	
	   o mass media,

	o NGOs,
	o College/university teaching
What jobs/types of jobs	• Librarian
	• Media teacher
	• Information related jobs
	• Information officer
	• Community librarian
	• Information specialist
	• Researcher
	• Information consultant
	• Public relations management
	• Communication officer
	• Communication related jobs
	• Clerk
	• Secretary
	• Lecturer
	• Sales consultant
	• Human resource manager
	• Labour relations officer
	• Administrative

Knowledge of the availability of the vacancies	- Advertisements(25) - Through contacts (16) - Personal initiative(3) - Employment agencies (1)
Table 2(b): Details of the interviews attended	
Employer	- Public sector/TLC/public libraries - Public sector/museum - Public sector/schools - Public sector/archives - Public sector/ academic institutions/academic library - Public sector/academic institutions/ education/training - Private sector/special libraries/other jobs
What job?	- Librarian (assistant, branch, temporary, voluntary, deputy director, senior,university, deputy, children's, school, subject, readers advisory, cataloguer) - Researcher - Museum assistant - Archive assistant - Communication officer - Sales consultant - Lecturer

	• Archivist
Outcome of the interview	• **Number of positive and negative responses more or less similar** • No response • Pending **Reasons for negative responses** • Turned down offer because of marriage • Commitments • Job require lower qualification • Low salary/wage • Job secured but parents insist that daughter/sibling must work near or from home • Lacking experience

Table 2(c): Employment prior to current job		
Employer	• Public sector/TLC/Public library • Public sector/academic institution/academic library • None	• Public and private sector/special library • Public school/school librarian
Job designation	• Teacher • Temporary assistant	• Butcher manager • Communication officer

	librarian - School librarian - Library assistant - Librarian - Voluntary service - Project assistant - Client consultant - Assistant librarian	- Junior library assistant - Senior library assistant - Student librarian - Student assistant - Librarian
Dates of employment	- Most of the jobs were short contract or temporary jobs	
Salary	- Mean - R3185 - Average - R2700 - Lowest - R1800 - Highest - R5500	
Job activities	- Searching and retrieval - User guidance/client consultant - Cataloguing - Shelving and shelf reading - Data capturing - Reference services/client	- Library operations/ management - Client consultant - Vacation programmes/outreach - Acquisitions/collection devt. - User services/ client advisor - Displays/current awareness

	consultant	service
	• Management	• Book selection
	• Circulation control	• Publicity and promotion
	• Service co-ordinator	• User education/information literacy
	• Classification/ analysis & synthesis	• Current awareness service
	• Lending	
Reason for leaving	• End of contract	
	• Temporary job	
	• Got a better job	• Got promotion
	• Taking up a permanent job	• Gone for further studies
	• Family reasons	• Part -time job
	• Secured another job	

3.1.3 Current Employment: Detailed Account of Activities Undertaken

Table 3(a): Day-to-day activities	
• Cataloguing	• Client consultancy
• Classification	• Filling
• Document processing	• Information retrieval
• Reference service	• Displays
• Inter-lending/networking	• Book selection
• Book issues/document delivery	• Client support

- Circulation control

- Document restoration

- Management assistant

- User education/information literacy

- Working with children/children literature and librarianship

- Sory-telling/ children's' literature

- Shelving and shelf reading

- Library statistics/management

- Staff management

- User advisory

- Outreach activities with schools

- Administration

- Searching

- Newspaper indexing

- Media Liason

- Communication strategies planner

- Attending media inquiries

- Information liaison with researchers

- Updating statutes with supplement/indexing

- Public relations

- Inter-lending

- Management of special requests and reservations

- Data inputting

- Staff supervision

- Supplies management/collection development

- Preparation of articles for newsletter

- Project appraisal

- Press statements

- Records management

- Photocopying

- Vocation programme

- Reader services

- User education

- Helping children with school projects

- Banking

- Public relations

- Weeding

• Press cutting/indexing • Review and organise documents		• Network management

Table 3(b): On-going and completed projects

On-going	• **Majority have initiated no projects** • Compiled history of Clemont • Organise displays eg aids/HIV, women, • Visit schools • Creation of a database on activities and events in the area • Story-telling to children • Vocational programmes (games, decoration, reading etc) • Adult education • Library user surveys • User education	• Survey of library security • Manual for subject librarians AID/HIV awareness project • OPAC manual • Teachers collection development • Development of a book club in the library • Creation of a book suggestion file for patrons to suggest books to be bought
Completed projects	• **Most of the projects are on-going** • Library security manual	

	• State of the library computer equipment • Teachers collection

Table 3(c): Changes in job activities

• **Majority have observed no changes** • Computerisation has created need for further training • Acquisition and use of technology/computers acquired • Membership increased • Library consciousness in the community • Community involvement in library development • Lending decreasing because of poor reading conditions at home • Political changes after second democratic elections affected chances of securing a job • Creating more space in the library • Increase in information collection • More work • Patrons diversify	• More users of young adult and teenage age increasingly come to the library • Affirmative action • Interpersonal relations has improved • More administrative and managerial jobs • Mobile libraries • Improved work relations with suppliers • Production and release of newsletter for the first time in the department • Loss of autonomy to Durban Metro resulting into laxity and loose control of databases and services • New services created • Increase in black membership especially among kids • Staff development • New technologies for rapid

• Opening hours longer, eg on Saturdays • Reading for pleasure increasing • Reading pattern changed	document delivery • Involvement of teachers and children in display work

Table 3(d): Level of responsibility

• Cataloguing and classification • Information sources • User guidance/support/servic es • Management assistant • User support services • Sales consultant • Clients support • Librarian • Circulation control • Management	• Searching and retrieval • Librarian in charge of branch library • Subject librarian • Fiction librarian • Collection development/ acquisitions • Co-ordination of departmental functions (media briefing, media linkage, photography) • Serial library assistant • Audio visual librarian • Inter-lending/networks librarian

Table 3(e): Knowledge being used from the degree programme

• Cataloguing • Classification • Indexing	• Inter-lending • Information evaluation • Awareness of library	• Acquisition • Information sources

- Information retrieval(**) - Online search - Management - Shelving, display - Information collection devolpment - Computer skills - Communication skills - Library orientation - User guidance - User services,	security issues - Writing scientific reports - Preparing and executing interviews - Circulation control - Computer literacy - Information science - Library science - Communication science - Readership,	- User studies /education - Shelve reading - Filing - Information retrieval - Reference services - Reference interviews - Bookreviews - Using reference material - Weeding - User studies - Indexing - Book selection,

Table 3(f): Knowledge and Skills Lacking

- Practical work - Computer literacy - None - Management	- Use of computers for searching and retrieval of information - Skills for using statistical packages eg SAS - In-service training

• Internet exploitation • Collection development • Use of electronic mail • Computer skills • Database management • Interview skills	• Online cataloguing • Student centred learning encouragement and giving student more responsibility • General knowledge • Library computer skills • Classification

Table 3(g): Improvements and changes recommended

• More practical • Computer literacy • Confidence building • Online search and retrieval • Duration for practical • Management courses • Technology • Management • Knowledge of LIS software programmes • Classification	• Voluntary service during holidays • Virtual library • Spreadsheet • Provide guidelines to students on other career opportunities besides libraries • Select candidates for the profession • Emphasise ethics interpersonal skills and service culture • MIS • ICT • Internet to be intensified

• Information search and retrieval by use of computers • Reduce the time allocated to historical librarianship • Online- cataloguing	• Reduce time for irrelevant courses • Introduce telematics • Longer attachments

3.1.4 The Future

Two items have been focused on in this section. Firstly, how the graduates project their career growth in the profession and secondly, how they imagine the department of library and information science to support their career needs.

Future career growth

Increasingly, the majority intends to rise professionally to top positions (e.g. university librarian, chief librarian, city librarian, and director of information services, and professor in LIS). The following prospects were also mentioned: Pursue a career in business with MBA marketing degree, start own company, study psychology and IT, secure employment in academic libraries, to be a modern librarian who can provide modern information services and start an information centre. In order to achieve this, they recognised the need for further professional development through formal and informal education and training and to gain experience and exposure in order to provide effective service to the community. Similarly, they recognise the need for computer skills and Information Technology. Those who have not yet secured jobs have kept their professional ambition open until they get employed.

The Role of LIS Department

The role of the department was recognised as summarised:

• offer opportunity for further studies (formal),

• keep in touch with alumni,

• provide guidance,

- organise short courses and workshops,

- offer short courses in IT,

- offer advise,

- offer short courses/continuing education,

- solicit overseas scholarships,

- offer employment,

- use my experience and expertise for teaching,

- offer sponsorship and bursaries,

- job contacts for graduates,

- offer correspondence honours degree,

- offer computer oriented classes/courses, advisory,

- assist with identification of suitable research topics for graduate degrees.

3.2 Results from Interview with Employer of LIS Graduate

It was desired that all the employers of LIS graduates be interviewed. Note has been taken that some employers have recruited more than one LIS graduate in their organisation: for instance, most Transitional Local Councils such as Durban Metro and Richards Bay Local Council and the University of Zululand. So far interviews have been obtained from eight employers that represent a large opinion pool.

The interview with the employers was held in order to find out if the employees/LIS graduates are suitable for the job activities they were hired to do in terms of knowledge, skills and attitudes and to identify gaps in training that may be addressed by the department. In business terms, this was a product and demand survey. The following information was solicited: Background information of the employer organisation, job details of the employee, employer evaluation on

job performance and finally, future plans of the organisation in relation to the employee and information related jobs. The results are summarised in Tables 4, 5, 6, and 7.

Table 4: Background information - employer organisation	
Name of employer	Recorded for future contact
Type of employer	• 7 - Public/Transitional Local Council/public libraries • 1 - public/ academic institution • 1 - private/academic institution
Name of Employer interviewee	Noted for future contact
Designation	• 4 - Librarians in-charge of City or Town libraries • Academic/college librarian • Academic/University librarian • Town Secretary • Librarian anchorage of a branch city/town library • I - Assistant librarian for town librarian
Contact address	Noted for future contact
Name of graduate employed	Noted for future contact
Job designation	• 1 - Senior librarian(with a masters qualification from UZ- DLIS) • 6 - Librarians • 3 - Assistant Librarians

	• 5 - Library Assistants
Date of employment	Noted to establish duration between graduation and employment of graduate.
Salary	Noted for comparability
Table 5: Job Details of Employees</STRONG< caption> Job requirements and description	Circulation, user services, fiction requests, circulation control, user service, book selection, cataloguing, reference queries, display, accession, weeding, user services, administration of branch library, statistics, supervisory, circulation and reference work, managerial, community service, management of the library, reader service, co-ordination of special information, assistance to local schools, supervision of personnel statistics, monthly report, circulation control, display, vocation activities, cataloguing, classification, library operations, lending services, photocopying, book selection, circulation control.
Number of applicants for the job	Several. *Noted to determine active or passive job search*
Types and levels of education, training, experience	There was a mixture of those with library work experience; some obtained professional LIS qualifications that include BLIS degree, BLIS degree and experience. Applicants with school leaving certificates also apply for information related positions.
Number interviewed	Ranging from 4 - 7
Types of education, training, experience possessed	• University degree including professional qualifications

	- Teachers qualifications - School leaving certificate - This variety includes those with experience in information related work such as in libraries.

- They were known to the library after previous attachment and voluntary service

- Demonstrated good performance during interview

- Achieved the required qualification and good interview performance

- Demonstrated good interpersonal relations

- Attained the best result out of the lot interviewed

Has a Christian commitment

What sort of activities has the employee been carrying out?

Answers were generally vague. For-instance, those prescribed in the job description, library oriented, most library duties, routine, routine plus limited administration, see job description.

Has the employee met your expectations in knowledge, skills and attitude required for the activities?

All respondents were positive. There was an indication that a lot more delivery was expected when experience is accumulated.

What weaknesses have you noted in the knowledge, skills, and attitude of the employee?

Lone views were expressed as follows:

- Poor Public Relations

- Lacking filling skills

- Lacking computer and database management skills

- Insufficient practical experience

- Indecisiveness

- Lacking experience & exposure

- Not normally sure of what they do

- Additional skills required

- None glaring for the job activity

What strengths have you noted in the knowledge, skills, and attitude of the employee?

Mainly lone views dwelt on:

- Good interpersonal relations (four pointed out this quality)

- Computer literacy

- Good communication skills

- Commitment to work

- Ready to discuss issues

- Management

Are there any areas in which you feel he/she is overqualified for the job?

Majority did not express any over-qualification. However, two noted over-qualification for the job requirements at the level of appointment.

Is there any knowledge or skill in which the employee was ill prepared and which you have had to teach the employee?

Financial management, practical experience, decision making, report writing, systematising work, book reviews. There were three cases where none was mentioned.

Have you sent the employee for further training in any area or do you think you will need to do that in any area?

The following areas were mentioned: Public relations, computer skills, IT training, graduate studies eg honours, professional conferences, middle management courses, in-house training, displays and book selection, Also noted is that further training is essential for all employees because there is always a knowledge gap.

Table 6: Employer evaluation of the employee/LIS graduate

Table 7: Future plans with the employee and information related work	
Would you like to retain this employee in your organisation? How do you see his/her career progressing?	All respondents were positive on retention of the employee. None was able to forecast their career growth.
Is there any information-related work in your organisation for which you have found it difficult to recruit? Give details	Majority was unable to identify other areas of manpower need. Single opinions were expressed as for the following: computer skills, reference librarian, and children librarian.
Has the employment of this person created any new manpower need in your organisation?	Majority indicated none. One respondent mentioned appointment of library assistant and security staff.

3.3 Advertisement Data

Scanning a popular weekly South African newspaper where, in my view, most advertisements for positions are advertised, also provided data. The aim was to identify the skills, knowledge and attitudes that are required by the employers for manpower needs assessment and training/curriculum focus. Information on the following was captured: Date and location of advertisement (year, month, closing date, reference number, name of periodical, data, page), employer (name, address, type of organisation, type of activity), job details (job title, job description, salary), job requirements (qualifications, experience, knowledge, skills, attitudes). There was a provision for additional information to be provided. Data for three years has been captured (1996 -1998) However, only data for

1996 will appear in this paper because of time constraints. The results are summarised below.

3.3.1 Date and Location of Advertisement

Advertisements appearing in Sunday Times' Business Times Weekly Newspaper for 1996 were scanned from January to November. Most vacant positions were normally advertised for duration of two weeks.

3.3.2 Employer

Address information was recorded for purposes of future contact. Regional /local government (35) followed by parastatal/academic institutions (20) advertised most jobs. Tailing behind were private profit making (3) and NGOs (1). No advertised positions in this media originated from International and foreign institutions or other sources omitted in the list.

Analysis according to type of activity revealed most adverts originated from service sector (47) followed by educational institution (37). Limited adverts originated from commercial (3), industrial (2), research (1) and religious institutions (1). Nothing originated from financial institutions.

3.3.3 Job Details

Approximately 180 job advertisements were scanned. A diversity of job titles is used for the position of information management and service specialist. Common titles, arranged in the order of their frequent usage are: Librarian (53), school library co-ordinator (27), Principal Librarian (19), Subject Librarian (14) Senior Librarian (12), Assistant Librarian (10), Assistant Director Library Services (6), Provincial Librarian (5), Senior Library Assistant (4), Communication Officer (4), Library Assistant (3), Senior Library Assistant (3), Director Library Services (3). Other rarely used job titles includes: Manager Library Services, Library Systems Manager, Education Management Information Systems (EMIS) manager, Documentalist, Librarian - Archivist, City Librarian, Manager Video Services, University Librarian, Deputy Director - Library Services, Research Librarian, Chief Librarian, Senior Research/Information Consultant, Associate Librarian, Information Analyst, Database Officer, Education Librarian-IT Services. It is

observed that IT, Information Systems, MIS, information analyst, publishing, data processing and network oriented jobs largely demand graduates with Computer, telecommunications, commerce specialisation. LIS graduates that we produce at the moment can handle insignificant part of their job description.

Job description is very essential for determining training needs. Table 8 summarizes the job descriptions.

Table 8: Job descriptions	
• Knowledge of library hardware and software requirements and their use for information services • Manage reference section/services • Collection development/acquisitions • Evaluation/preservation/conservation/restoration indexing/coding information service/user services • Management of information service • Searches/SABINET/ computerised cataloguing/SAMARC • USMARC • Library In-house Software • Programs(URICA,ERUDITEetc) • Interlending/networking services • Stock taking/checking/ statistics • Displays/ exhibitions	• Co-ordinate school library services • Needs assessment • Liasing and co-ordination with provincial library • Visit schools to identify needs • Provide guidance to teachers • Organise the administration of media centre, • Provide specialised library services • Information & bibliographic services • Training and research to community and educational institutions/management • Information needs assessment • Lending services

- Shelf reading/proof reading

- Visual media evaluation/services

- Manage IT and Information resource

- Selection of hardware and software

- Publicity/ promotion/marketing/PR

- A technical service devt. & maintenance

- Departmental libraries establishment

- Customer relations

- Systems management

- Information services co-ordination

- Classification/indexing/cataloguing

- Internet/Intranet for information services

- Support teaching, learning and research

- Manage provincial library and information services

- Policy-making/formulation/standards

- Development & adoption of policies

- Departmental libraries in the province

- Community information services

- Liason with community libraries

- Devt. of Library and information services

- Storage maintenance

- Searching and retrieval

- MIS

- Administration /execution of routine tasks

- Archiving/document restoration

- Manage African, official, Grey literature and research reports

- Database development and maintenance

- Quality control

- Proof reading

- Information consultancy services

- User services

- On-line searching

- Reference services

- Database management

- Records management

- Document storage,

- Serial management

- Software development

• Open communication channels • Management functions • Clerical duties • Supervise district information services	• IT/Database • Internet/management/management • Computerized library systems • Teaching • Educational policy • It services • Research/data requirements • Data analysis and interpretation

The system of remuneration is diversified and differs from organisation to organisation. Salaries and wages have always represented glaring indicator of levels of remuneration that also differ by levels of appointment. Largely, there is some consistency on salary scales paid in the public sector to information specialists. The following are some examples (US$ 1= R 6.35):

- Senior Librarian R.50868 -61095 p.a.

- Library Assistant R24246

- SL - R57510 -R83775pa

- Systems Manager - R67386 -96530

- Assistant Director - R63474 -R85182 p.a.

- Principal Librarian - R50844- 71055

- University Librarian- R95789 -R138890

- Director Library Services - R85182

- Chief Library Assistant- R 37719

- Library Assistant - R 27882- 39036

- Librarian - R.39036 -78141

- Senior Library Assistant - R27882

- Librarian - R40836 - R45852

- Subject Librarian - R84000 (avarage and typical to academic libraries.)

- Lecturer - R 84000 (avarage)

3.4.4. Job Requirements

1. Most of the advertised jobs required a bachelor (3 or 4 yr.) degree qualification. Employers favoured library and Information Science or Postgraduate Diploma in Library and Information. A relevant or appropriate degree and a professional qualification followed this. Two to five cases mentioned post-graduate honours/masters/or PhD for requirement. More juniors position such library assistant accepted application from matriculates/senior school leavers and certificate holders. Computer competence or qualification in a variety of information/library service software programmes such as UNIX; was highly recommended. There was an instance when teaching experience was required along with other qualifications.

2. Experience is normally emphasised for most jobs despite knowledge that there must be a first step in life and opportunity to commit that step have to be provided by the society. The following were some of the requirements for experience: Senior positions and specialised services demanded more years of working experience ranging from 3 to 10.

- Expertise in IT

- Knowledge of reference work and CD - ROM databases

- Extensive experience if certificate holder

- 3yrs specific computer and IT in LAN environment

- Strategic planning and budgeting

- Extensive experience in video library environment

- Multiple customer interfacing

- 10 years in academic library

- 5yrs + computerised cataloguing

- 3yrs with law&serials collection/services

- Middle level management

- Substantial/extensive/necessary

- Junior or equivalent certificate

- 5yrs comprised library environment

- 1yr with subject classification and subject heading

- 3yrs information consultancy

- Teaching experience

- 5yrs in academic library/AACR2 and DDC

- Online searching

- Extensive in special library

- 5years in public library

3. It is largely argued that knowledge is embedded in a person's life or acquired by experience, exposure, and education and through exploitation and use of information. The adverts emphasised the following:

- Computer literacy/skills

- Computer literacy with library systems

- Sound knowledge of DDC 20, AACR2, SAMARC, LC subject headings and subject thesauri, CD -ROM databases

- Interest and knowledge in LIS and Resource based learning

- Knowledge of SABINET, audio visual technologies and their application in teaching

- Information technology and Library application/library management

- Information service and education generally

- SABINET

- Good English

- School libraries

- Public libraries

- Management

- Online cataloguing

- Business analysis

- Urica, URIDITE,sabinet/online system/Inmagic/ zulu

4. In the area of skills, the following were emphasised:

- Ability to use information retrieval databases

- Language proficiency

- Communication skills

- Management and administrative skills

- Interpersonal skills

- Leadership qualities

- Computer skills

- Abstracting skills

- Community consciousness/commitment/work/

- Training/teaching skills

- Policy formulation

- Cataloguing and classification with AACR2, DDC, LC subject headings

- IT skills

- Keyboard skills

5. Insignificant number of adverts articulated attitude needs. Those mentioned in few cases: initiative, self starter, good teamwork, pleasant, enthusiastic, sociable, open mindedness to change, eagerness to learn and sense of order.

6. The need for driving license was mentioned in 10 of the adverts while two required membership of LIS professional association.

4. Discussion and Conclusions

This section provides a summary of interviews with LIS students and employers, overviews the results from advertisement scanning, discusses the suitability of follow-up study and advertisement scanning. Finally, it shows how the outcome of this study has been incorporated in the LIS curriculum at the University of Zululand.

4.1 Interviews with LIS Graduates and Employers

The public sector, particularly Transitional Local Councils (TLC's), offer most jobs in public libraries. Transitional Local Councils were constituted after the democratic elections in South Africa in 1994 to manage and develop the formation of former townships with former whites-only cities into single local councils. Many public libraries are currently being built in the townships where most blacks live and where there were no public libraries. Since the democratic elections in 1994, several new public libraries have emerged from the formally

neglected urban settlements. Academic institutions follow closely with jobs in academic libraries. There are insignificant job vacancies in the private sector that is still dominated by the former employment pattern. Most job designations refer to librarians at various levels starting from library assistant to director of information services or university librarian. Such designations are consistent with most newspaper advertisements. Graduates seem to gain employed during the first two years after graduation largely on contract or in temporary positions. Where possible, graduates seek voluntary jobs to gain experience. The level of graduate unemployment after the second year of graduation is insignificant. Salaries are fair and consistent with the level of employment and nature of job requirements and nature and type of employer.

Employment history

Graduates, by all accounts, submit several applications for jobs - showing that they are actively involved in a search for employment. Most of the available jobs are library service oriented. Knowledge of job vacancies is largely gained by means of advertisements or by information obtained through contacts. There is little evidence of personal initiative and the usage of employment agencies is insignificant. Most applications are aimed at public sector jobs in TLCs, or for positions in public libraries. Academic institutions/libraries receive the second highest number of applications. Vacancies for librarians, the most advertised positions, are also the most popular among job seekers. The aforementioned organisations provide the largest number of interviews for library oriented jobs. The numbers of positive and negative interview results are more or less similar. Reasons for negative responses have no bearing on the knowledge, skills and attitudes that were obtained during training.

Responses to questions on employment prior to current job, including details about the employer, designation, period and duration of employment, and salary are consistent with information of that nature from the aforementioned three sources. Job activities in table 2(c) under employment prior to current job and

table 3(a) (day-to-day activities under current employment) generally match, as summarised in courses and modules as follows:

- cataloguing,

- classification (information analysis and synthesis),

- searching and retrieval,

- information processing,

- information management,

- library and information services (lending, interlending/networking, reference services, document delivery, photocopying/scanning, user education/guidance/services, etc),

- user studies/ information seeking -behaviour,

- practical (filling, coding,shelf reading etc),

- management (functions,users,staff,operations,financial etc),

- collection development,

- information literacy,

- marketing/publicity/public relations,

- records management (preservation and conservation/ restoration, bindery etc),

- communication skills,

- project management,

- computer skills,

- indexing,

- abstracting,

- readership/children's literature.

These activities are consistent with job description in the advertisement and job activities mentioned by employers. Their reflection in the curriculum is essential. The reasons given for leaving previously held jobs are mostly to search for stable/permanent jobs and better job prospects. Information provided on ongoing and completed projects was scant (less than five respondents reacted) and reveals that initiative and creativity are lacking. This is consistent with employer evaluation of employees.

The majority has observed no changes. However, acquisition and use of technology/computers and information and library consciousness seem to prevail in the few cases noted (see table 3(c)). Levels of responsibility are mainly applicable to functional library jobs and have less to do with structural positions. This is consistent with the levels of appointment attained by most respondents. A few (six) branch library management positions were noted.

Respondents indicated that sufficient knowledge was obtained from the degree programme (see table 3(e)). However, during the interviews most of them had problems in describing the particular courses or units in detail. This was partly due to the fact that the structure of the courses are known by programme codes such as information science I, II and so on, or library science I, II, III etc. The title of the courses was secondary to the programme codes. This situation has been altered from 1999 and courses are increasingly being recognised by their titles rather than by programme codes. The responses from this section suggest that most of the content/activities mentioned in tables 2 (c) and 3(a) summarised under item 3 are already incorporated in the previous curriculum. If this is the case then the role of this study has been one of verification. However, recognition of knowledge and skills lacking makes this observation speculative. Computer skills and practical skills were noted to be lacking. Particularly those who graduated before compulsory computer skills were implemented from 1999 mentioned lack of computer skills. A student-centred approach to learning that is able to stimulate critical thinking, creativity, initiative and confidence building is

also notably lacking. The concerns raised by respondents have been addressed in the pilot curriculum implemented in 1999 and will receive sufficient attention in the revised curriculum to take effect from 2001. Measures are being taken to move from traditional rote teaching and learning methods to student-centred methods. This will obviously require a significant paradigm shift in approaches to methods of teaching/learning as applicable to the University as a whole in order to support departmental initiatives. Improvements and changes (table 3(g)) suggested focus on the issues already discussed.

The majority of respondents plan to grow/develop vertically in their careers. In order to achieve this, further education, experience, exposure and IT skills are recognised to be essential. The role of the department in supporting career growth is summarised as promoting graduate studies, developing linkages, providing guidance and advice, organising short courses/continuing educational programmes and securing bursaries and scholarships. It is recognised that the last two activities are still lacking due to staff shortages and inadequate motivation to justify such courses, considering the location of the University programme in a rural setting. However, the issue of bursaries and scholarships needs to be pursued vigorously. Qualified students at the University currently benefit from an existing scholarship and bursary scheme but this needs to be supplemented by other sources.

Most interviewees representing employers held senior positions in their jobs. The employer's views on type of employer, job designation and job requirements were consistent with those mentioned by employee/graduate interviewers. A mixed group of applicants with a variety of education levels and experience, most of them with university degrees, applied for positions advertised. However, those with LIS degrees were preferred. The University of Zululand LIS graduates excelled in the interview due to having a positive attitude and the required qualifications as well as a previous practical attachment with the employer organisation. The employer's evaluation of the employee/graduate was

positive. There were, however, inconsistencies in their evaluation in terms of strengths and weaknesses.

The employee was found to be ill prepared, mainly in practical skills. Other areas noted were of lesser importance. Some employers have promoted staff development by providing opportunities for further formal and informal training. Some fields of further training led to graduate qualifications while others were geared to the development of service culture or computer skills. It was, however, agreed that further training is essential because there is always a knowledge gap. Employers were generally happy to retain our graduates. This signifies their suitability to the job activities they were hired to perform.

4.2. Advertisement Scanning

The large number of advertisements (approximately 180 job vacancies) in Sunday Times for 1996 scanned for this study provided sufficient background on the knowledge, skills and attitudes required by employers. For certain unknown reasons, fewer (less than 100) job advertisements appeared in the same weekly newspaper in 1997 and 98 compared to 1996. The existence of various levels of librarianship is revealed in the leading job title given in the advertisements. This is consistent with previous findings. Other job titles such as research/information consultant or database officer that were also found in a few instances, were open to all degree holders including those with LIS degrees. Jobs such as those connected with information systems, IT, MIS, information analysis, publishing, data processing and network-oriented activities required candidates with computer and technology oriented qualifications. Library or information science graduates were not included in such job requirements.

Although most job descriptions in table 8 match job activities summarised in tables 2 (c) and 3 (a) and on page 27, the need for technology or computer skills for information management was widely emphasised. Courses or modules on on-line search, library in-house software programmes, databases, computerised cataloguing, multimedia, internet/intranet, MIS, Information and Communication

Technologies are essential. The system of remuneration is consistent with those already recorded.

It was noted that most of the jobs advertised required a university LIS degree or its equivalent, computer competency, and practical experience. The knowledge and skills required that can be obtained in a well-designed learning programme were varied. Some of the knowledge and skills can be obtained from other academic programmes that students may be encouraged to enrol for during the duration of their study.

4.3 Evaluation of Follow Up Studies and Jobs Advertisement Scanning Methods

These two methods are not used widely, as evidenced by this author from records in databases and the reviewed literature. Follow- up studies seems to be relatively popular when compared with advertisement scanning. There is further evidence to suggest that follow-up of graduates is done informally by education institutions that resort to casual enquiries. Whether formalised or not, follow -up studies or activities are essential for curriculum development and education improvement.

The methodologies are sound and easy to use. The use of qualitative design provides a better insight and more rewarding in a follow-up study. I found the visits particularly interesting with regard to understanding the context, environment and work atmosphere that is essential for both curriculum reviews, resources support and review of the teaching methods. What both interviewees mentioned was verifiable by triangulation. Although follow up study provided useful information, input from employers was generally scant. I developed an opinion that employer opinions and views could also be solicited by means of the focus group method. Information that was gathered through newspaper scanning proved to be exceptionally useful. It reflected a wider national scope in terms of knowledge, skills and attitude requirements

The triangulation technique, involving the employee, employer and newspaper scanning including observations at work through my visits used in this study proved extremely useful for validating the reliability of the results.

4.4 The Results and Curriculum Review

We have noted that the previous curriculum was not significantly lacking in content. The reviewed curriculum consolidated most of the previous content that was illogically scattered throughout the programs and content inadequately articulated. The major changes in the revised curriculum are as follows. The title of the degree has been changed from Library and Information Science to Information and Library Science in order to emphasise information rather than the library aspect. Library science and information science courses are no longer separated as before. Course titles have been articulated in order to emphasise the concrete aspect and marketing purpose. Course content is objective-driven and re-organised to match the title. New courses have been introduced. The number of courses has increased. Computer based courses have increased and have been built into the modules. Extending the duration of fieldwork/attachment and grading the module has emphasised practical skills. Practical and student-centred learning methods are encouraged. Information and library science courses can only be taken as minors by non-LIS graduandi. The job activities suggested by both employees and employers in tables 3(a), 3(b), 3(c) and 5 and the summary of job descriptions in table 8 have been incorporated in the revised curriculum. The draft revised curriculum can be accessed at location; http://www.hruzulu.uzulu.ac.za/~m_dss/university_modules.

In conclusion, whereas the aforementioned two methods still enjoy popularity, it can be argued that they alone do not necessarily provide a total picture of the demand and supply matrix that can enhance effective and beneficial LIS education for service and employability of graduates. Evidently the public sector, and in particular the public and academic libraries, dominate this segment of the employment market in South Africa. Sound education in management, information and communication technologies, information searching, analysis and synthesis, as well as the ability to perform practical work is regarded as essential. Cataloguing and classification that is being considered irrelevant by LIS educators in some LIS schools, because of access to centralised cataloguing

services some producing CIPs, is found to be relevant in as much as they provide knowledge on analysis and synthesis of information as well as the knowledge of the nature and structure of a given information collection. These courses/modules stands out like mathematics for quantitative skills or logic's and editing for a course in publishing. The use of the aforementioned two methods exploits various techniques in order to play a crucial verification role. They also effectively supplement other methods such as reviewing existing curriculum and literature, consulting with colleagues and observing national and international trends, while focusing on the group method for academic programme development.

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Appendix 1: List of Library and Information Science Departments/Schools in South Africa		
South Africa **pgu@education.uct.ac.za** **(Prof. Peter Underwood)**	**University of Cape Town, Department of Information and Library Studies**	- Postgraduate Diploma in Library and Information Studies - Bachelor in Information and Library Studies (Honours) - Masters in Information and Library Studies (by both course work and dissertation) - Ph.D. - Mphil (Interdisciplinary Research)
Kaniki@infs.unp.ac.za **(Prof. Andrew Kaniki)**	**University of Natal, Dept of Inform. Studies**	Post Graduate Diploma in

		Information Studies • Bachelor in Information Studies (Honours) • Masters in Information Studies (by course work and by dissertation) • Ph.D. • Diploma in School Library Studies
huibre@hbib.uovs.ac.za	**University of Orange Free State, Dept of Information & Communication Science**	• Bachelor of Arts (Information and Communication Science)
Bothma@libarts.up.ac.za **(Prof. Theo Bothma)**	**University of Pretoria, Dept. of Information Science**	• Bachelor in Library Science, • Bachelor in Library Science(Honours) • Bachelor of Arts (Information Science) • Masters in Library and Information Science (by

		dissertation only) • Ph.D. (by dissertation)
pavb@info.rau.ac.za **(Prof. Pieter van Brakel)**	**Rand Afrikaans University, Dept. of IS**	• Bachelor in Information Science • Bachelor in Information Science (Honours) • Post Graduate Diploma in Information Management • Masters in Information Science (by dissertation and by course work) • PhD
debeerac@Alpha.unisa.ac.za **(Prof. F. de Beer)**	**University of South Africa, Dept. of Information Science**	• Bachelor in Librarianship • Bachelor in Librarianship (Honours) • Masters in Library and Information Science (by

		dissertation), • Ph.D. (by dissertation).
Alabi@getafix.utr. ac.za **(Prof. Gbade Alabi)**	**University of Transkei, Dept. of LIS**	• Bachelor in Library Science • Bachelor in Library Science (Honours) • Post graduate Diploma in Library and Information Science • Masters in Library and Information Science (by dissertation)
Docholla@pan.uzulu.ac.za **(Prof. Dennis Ocholla)**	**University of Zululand, Dept. of Library and Information Science**	• Bachelor in Library and Information Science • BA (Information Science) -to start in 2001 • Postgraduate Diploma in Library and Information Science • Bachelor in Library

		and Information Science (Honours) • Masters in Library and Information (by dissertation) • Ph.D. (by dissertation) • Diploma in School Library Science
Gfredericks@uwc.ac.za **(Prof. GH Fredericks)**	**University of Western Cape, Dept. of LIS**	• Lower Diploma in Library and Information Science • Bachelor in Library and Information Science, Bachelor in Library Science Education, Higher Diploma in Library and Information Science • Bachelor in Library and Information Science (Honours) • Masters in Library and Information Science (by dissertation and by

		• research) • Ph.D. (by dissertation). • Diploma in School Librarianship
Ilsui@puknet.puk.ca.za **(Icelin Uca)**	**Potchefstroom University(PUCHO)**	• Bachelor in Library and Information Science, BA (Information Science) • Higher Diploma in Library and Information Science, • Bachelor in Library and Information Science (Honours) Masters in Library and Information Science (by coursework)
nkweta.em@ufhcc.ufh.ac.za **(Ms. Nkweta)**	**University of Fort Hare**	• Bachelor in Library and Information Science • Bachelor in Library and Information Science (Honours)

msvdw@maties.sun.ac.za **(Dr. Martin van der Walt)**	**University of Stellenbosch,Dept.IS**	- Bachelor in Information.Science - Bachelor in Information Science (Honours) - Masters in Information Science (by dissertation) - Ph.D. (by dissertation)
Rocky@uninl.unorth.ac.za **(Prof. Rocky Ralebipi)**	**University of the North**	- Bachelor in Library and Information Science, - Bachelor in Library Science Education - Higher Diploma in Library and Information Science - Bachelor in Library and Information Science (Honours) - Masters in Library and Information Science (by dissertation) - Ph.D. (by

		dissertation)
lizvanas@edutech.ctech.ac.za **(Dr.van Aswegen)**	**Cape Technikon, Dept. of Library and Information Practice**	1. National Certificate in Library and Information Science (1year) 2. National Higher Certificate in Library and Information Science (2years) 3. National Diploma in Library and Information Science (3years) 4. Bachelor inTechnology Library and Information Science (4years) 5. Masters in Technology Library and Information Science (5years) 6. Doctor in Technology Library and Information Science (6years)
Machizo@wpo.mlsultan.ac.za	**ML Sultan Technikon,**	1,2,3,4,5,6 as above

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