Skills developed through Library and Information Science Education

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Abstract

Purpose: The purpose of this paper is to report a study designed to identify qualifications and skills that Library and Information Science (LIS) students should have when they graduate.

Design/methodology/approach: The reported research examined the curriculum of 49 institutions in three countries which offered programs in LIS. Course descriptions were studied through the Web and the module specifications presented there.

Findings: The study identified 59 qualifications/skills that were central to graduation in the field of LIS.

Research limitations/implications: Course specifications have some limitations as they do not always include the detailed description that would be desirable.

Originality/value: The paper examines the orientation of institutions that provide LIS programs and, more importantly, the way that orientation is integrated into their programs of study.

Article type: Research paper.

Keywords: Librarians, Skills, Education, Curriculum, Library and Information Science (LIS).

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Introduction

Library and Information Science (LIS) education is experiencing a period of change, reflecting a combination of internal and, more importantly, external factors. Those changes, which relate to the essence of the library profession, the results of library work and its future utility, have inevitably affected LIS education. Issues such as the internationalisation of LIS education, the equivalence of qualifications, the orientation of LIS education (interdisciplinary, research-focused, vocational, etc.), the training and professional background of Library Science (LS) faculty and the competition with other disciplines that manage information, lead to a volatile environment. These circumstances have an impact on the structure of curriculum, the content of courses and the orientation of LIS institutions.

This paper studies the curriculum of 49 institutions offering LIS education programs. The objective is not to compare those curricula, but to identify, as far as possible, the common qualifications and skills that students of those institutions are expected to have when they graduate.

Modern Library Science Education

International Federation of Library Associations and Institutions (IFLA) rules for the education of librarians and information professionals (IFLA, 2000) point out that in the past educational programs have focused on physical collections and other physical materials. Today, the emphasis is on the individual practitioner and on information provision in a variety of contexts.

According to Wilson (2001), education in library and information studies is influenced by information context, information systems, people and organizations. Gorman (2004) states that a core curriculum that would apply to all schools would include all the core Library Science services such as collection development and acquisitions, cataloguing, reference and library instruction. He, also, thinks that there is a considerable confusion in the library profession as a whole on two crucial issues; the inability to distinguish between education and training and a lack of consensus on the nature of librarianship. In addition, the most important resource for the resolution of the problems in library education is the nature and origin of LIS faculty, because many of contemporary LIS faculty members have little or no training in librarianship and, in many cases, no experience of working in libraries.

The general context of ALM (Archives, Library and Museum) education was investigated by a committee appointed by the National Agency of Higher Education in Sweden in 2004. The members of this committee concluded that any LIS education should include four elements:

- LIS graduates should have a thorough understanding of knowledge organization and retrieval, including the theories of systems for knowledge organization and retrieval.
- Librarians should have a good understanding and knowledge of the materials acquired and organized.
- All students should be taught epistemology and theory of knowledge in order to be able to analyze the epistemological presuppositions of different systems.

- LIS students should possess the ability to understand and analyze LIS institutions and practice.

According to Blankson and Hibberd (2004, p. 269), "While faculty understands the trends and issues in the industry and believe their programmes are addressing the requisite skills, practitioners remain to be convinced that graduates gain the required skills during course instruction". They propose that there should be a more effective positioning of LIS course for students, a change towards a more business focused perspective and, finally, that more practical experience should be offered to students.

Internationalization of LIS Education

The cooperative use of resources, experiences and equipment, at a national and international level, has been a goal of librarianship for many decades. Especially in the field of education, there have been many efforts to collaborate at the international level, aiming for more effective management of the issues that the library profession faces. Those efforts have encountered many problems, as a result of which the results have not been spectacular, but they may, perhaps, constitute a step towards a viable solution in the future.

Such cooperative efforts can be found in organizational schemes such as the IFLA's Section on Education and Training, seminars and conferences held by organizations such as EUCLIP and BOBCATSSS, and collaborative schemes for the exchange teachers and students like NODRPLUS.

Abdullahi's and Kajberg's (2004) study has shown that the growing interest in internationalization and corporation in LIS education, especially between the U.S., Canada and European Library Schools, is motivated by a desire to improve curricula, to understand the nature of the LIS profession and to explore ways in which international as well intercontinental cooperative schemes can be best utilized. Furthermore, most LIS programs in the U.S., Canada and Europe are concerned with international issues in LIS education, but currently there are no standards for inclusion of international issues in LIS curricula.

In order to achieve a satisfactory level of collaboration at the international level, it is important to have a continual exchange of educational and professional experience, international collaboration and an ongoing discussion about methods of evaluation, accreditation and certification. Also, the matter of equivalence and reciprocity of qualifications is important for the success of international educational efforts (Vodosek, 2002).

According to Kajberg (2002) in spite of the increased cooperative efforts and pooled expertise, there are few spectacular results in terms of demonstrable synergy effects, development projects, coordinated curricular structures, or joint degrees. To some extent, there are even signs of an increasing heterogeneity of curricular structures and growing differences with regard to basic educational philosophy and course development trends.

Library schools should emphasize the internationalization of LIS education by developing international standards that will encourage cooperation among LIS schools. It is important to consider international LIS education as an essential element

in all LIS schools. A consequence of this would be that several courses in the area should be taught. For this to happen, every LIS student should be informed about international information infrastructures of various types, and about developments in academic and vocational libraries. To promote these measures, LIS schools should employ more faculty with a knowledge of international LIS issues, with an orientation to developing teaching applications that demonstrate various library techniques and developments from around the world. (Abdullahi**,** Kajberg).

LIS educational programmes orientation

LIS educational programs should aim at the creation of the "complete librarian", i.e. a person who can adequately understand and handle library materials and, also, understand the managerial, institutional and social dimension of librarianship. Interdisciplinary, professionally oriented approaches may create knowledge and competencies which discipline oriented approaches are not capable of generating. At the same time, professionally oriented LIS, with its links to core values of librarianship, is vital in constituting LIS and preventing it from disintegrating and being reduced to an appendix to other fields (Audunson *et. al*., 2003).

We can also identify a change in the quality of education provided which has resulted from a shift of interest from the traditional Library Science to LIS, Information Science or even CIS (Computer and Information Science). This change was primarily generated by the belief of many instructors and professionals that it is not essential to continue the evolution of traditional library work in today's changing informational environment. On the contrary, they considered that the creation of new schemes, like metadata, were needed, schemes that do not build on the previous experience of library work but goes along with their (new) perception regarding the organisation of information. This conforms with the belief of many (new) professionals that they are information scientists and not librarians.

Weller and Haider (2007) believe that in the past 30 years, the field of LIS has moved closer to professional and business degrees, with a decreased emphasis on academic teaching. Many LIS Schools, especially in the U.K., offer a BA in LIS with another subject, rather than in LIS alone. The fact that many of today's schools offer an LIS degree for students originating from a different discipline has resulted in multi-disciplinary postgraduate body. These multi-disciplinary backgrounds of LIS students, practitioners and researchers may add value to the field, as they can help in understanding today's fast moving demands in technology and society.

At the same time, however, these changes pose a threat to our profession, as it may alter, or simply confuse, our profession's mission, configuration and its essence, if we accept that we are now "information specialists".

Regarding the efforts to develop a common educational space in Europe, Audunson (2005) believes that educational programs have developed in different directions. In general, there is a discipline-oriented and profession-oriented approach. There is, also, a variation in the way LIS education is integrated into academic system, from a BA up to PhD. Furthermore, he argues that LIS education has developed from being vocational education to a research-based academic undertaking.

Library Science Vs Information Science

One major change of the past two decades affecting the structure of modern LIS courses is the, so called, "I – School movement". King (2006) says that, "The I-School movement is made up of novel academic programs that embrace new intellectual and professional challenges in a world awash in information. I-School move beyond traditional programs, while building on the intellectual and institutional legacies of those programs". Following this "movement", many traditional library schools have changed their titles from "library" to "information", preferring some more generic terms to name themselves, like "School of Information", and their courses have been renamed "Information Studies".

Wiegand (1999) stated that LIS educators want to drop the word "library" from their program titles as they are caught up in the modern popular hype of Information Sciences, which focus on process at the expense of character and authority. On the other hand, "The focus on traditional library and information skills training appears to result in perceived gaps in the education of information professionals, especially for the special or corporate libraries of the private sector" (Blankson, Hibberd).

The shift in LIS education originates from a growing gender divide in LIS Schools between information science oriented male teachers and library course oriented female teachers (Hildenbrand, 1999). Also, the individual interests and culture of LIS faculty are marginalizing core LS education in favour of IS and other courses close to computer science. Even though this may be a good thing for those schools, it is undoubtedly a bad thing for librarianship and its future (Gorman). Houser (1988) goes one step further when he says that the disciplines attached to IS – if they exist at all – are, at best, peripheral to professional library work and, at worst, inimical to it.

LIS educational programs should teach core LS courses, as the physical, scientific and professional continuity of librarianship is particularly important for its own "survival". However, it is equally important to incorporate courses relative to new technologies, through which participants will be taught the new techniques of information management and organisation of information systems.

Skills and qualifications

One of the issues in question regarding LIS education and its international aspects is the equivalency of the skills offered in (individual) schools/countries/continents and how this can be certified through an established and widely accepted mechanism of accreditation. There are still many steps to take if we really want to establish an internationalised Library Science. However, we should keep in mind that our main goal should not be how to bring together different philosophies and cultures but to explore and identify which of those approaches may, in whole or in part, serve the final objective - an international body that can "supply" libraries, research schemes, educational institutions and all kinds of information organisations with academic and vocational personnel.

Modern education should take into consideration the fact that modern hybrid libraries cause the need for "hybrid" librarians. A professional should be able to understand problems, manage users and encourage teams of individuals with different skills to work together, as those "hybrid" teams will be the corner stones of progress for the management and provision of information systems in the future (Biddiscombe, 2001).

Identification of library skills through education requires research based on several different approaches (programs of study, faculty interviews, participant questionnaires) as there is a gap between what is described in the course/module and what is actually taught in the class-room.

Blankson and Hibberd's research showed that whilst LIS faculty understand which skills are important and may even give those skills more consideration than practitioners themselves, over time there has been a disconnect between the educational curricula and vocational practice. In the same survey, traditional skills of cataloguing and indexing were widely accepted as important by practitioners and LIS faculty. Also, generic/social skills, such as interpersonal, analytical, creative and communication, were ranked as "must have" by most practitioners, compared with the low level of importance attached to financial management, budgeting and personnel management skills.

Middleton (2003) identified 189 skills grouped into 9 categories. Strong prioritization was given to information services and communication skills, while use of traditional and automated reference sources in locating required information was the highest ranked skill. In general, the responses show communication skill to be the most popular among graduates. Of the core knowledge, greatest emphasis is given to information services and information organization.

Regarding librarians' education and skills in a digital environment, Tammaro (2007) addresses some contemporary problems and implications of the librarian's role. She focuses mostly on Europe, but the issues described are common to a worldwide professional body. She states that although many schools offer courses or modules to prepare professionals to work in a "digital" library program, very few proceed in a systematic and comprehensive way. Although, a librarian should possess competencies like web publishing and networking, he or she should also have traditional skills such as indexing, use of thesaurus and collection development.

To summarize, LIS programs of study should evolve around 4 directions:

- Prioritize core LIS courses.
- Incorporate the developments in technology, through a systematic and well designed approach.
- Emphasis on developing social/interpersonal skills.
- Organization of cooperative, international, educational schemes, that will guarantee certification and the equivalence of degrees, promote the exchange of personnel and produce a cooperative outlook on Library Science issues.

Research

The course programs of 49 LIS Schools were examined from the U.S., U.K. and Canada in May 2008. In order for a curriculum to be included in this research, the term "Library Science" or a synonym (e.g. "library studies") had to be in the title of the institution. This paper focuses on traditional librarianship curricula in modern LIS Schools. Therefore, a selection was made of those academic institutions that teach library techniques and the emphasis was given to those schools that have chosen to maintain the word "Library" into their title. The aim is to identify qualifications and skills for the modern librarian through a study of the educational process of LIS

Schools. These skills are presented based on a common background, as the objective here is not to produce a comparative study. The result of this study is that 58 different qualifications/skills are identified and recognised.

This research has certain limitations that are imposed by the nature of the information gathered. The description of a course, regardless of how detailed its specifications may be, cannot indicate with precision how the professor teaches or the way which each student interprets and internalises what he or she is taught in a way that will, eventually, develop in professional experience.

[Figure 1. Skills through Education]

The findings of this research can be summarised as follows:

- Those Schools that have chosen to maintain the word "library" in their title still practise and teach core librarianship, as traditional courses are taught in all curricula examined. This does not necessarily mean that all schools teach all of the traditional library tools and techniques, but rather that they continue to consider traditional librarianship a very important element.
- Modern technological developments in an information environment have been incorporated to a large extent in LIS courses. It appears that this does not happens at the expense of core LIS courses.
- A curriculum that incorporates courses emanating from traditional and digital environment gives LIS students, at least in theory, the possibility to attain suitable qualifications for professional work in the modern hybrid environment of a typical library. This contributes to the creation of the "hybrid" librarian, in relation to the efficient management of documents and information in a traditional and digital environment.
- There have been some efforts to develop generic and social skills. Of particular importance appears to be the development of leadership skill and understanding of ethical issues that arise from the use of documents in the modern information environment. Also, understanding user needs and storytelling (in the U.S. and Canada) are sometimes taught in LIS Schools. Although communication skills are considered important in many papers (Fisher, Steele, Ashcroft, Partridge) job ads research (Marion, Gerolimos, Luo) and through questionnaires and focus groups (Blankson, Middleton), there is a limited number of courses that teach communication skills per se. This is partly natural, because such skills can be developed through similar courses such as public service, user education and understanding user needs. However, it is necessary to give a higher priority to the development of communication and interpersonal skills with the incorporation of related and autonomous courses.
- Terms such as Knowledge Management, Scholarly Communication, Information Literacy and Information Architect are not documented as qualifications but, rather, as more generic fields of practice and knowledge for a librarian.

Conclusions

The study of educational process in Library Science, as in every other aspect of our science, should be achieved through a combination of data collection methods. This should include traditional Library Science as it has developed over time, together with the more recent impact of Computer Science in this development.

One basic issue (or perhaps mistake) for many professionals, researchers and library instructors is that they overestimate the effect of computers in the evolution and future of librarianship. This is apparent in the erroneous use of terms like digital library, digital librarian, digital skills and digital librarianship, and also in the change in the direction and the orientation of LIS schools (as in the I-School movement) and the removal of the word "library" from their titles (a removal that was followed by a rejection of core librarianship courses).

If we want to survive as a profession and discipline we must separate ourselves from other professionals that manage information. We are not doing the same work, nor do we use the same tools in order to complete our tasks. And this separation should be prominent in education.

Gorman (2004, p. 380) accurately describes the position: "It fools nobody to present libraries as if they were a species of computer arcade in which the core values of our profession - service, intellectual freedom, literacy and learning, preservation of the human record - are consigned to the dust-heap of history". And he goes on (p.377), "The seductions of modern communications technology have led many library educators to concentrate on that technology and dismiss anything about libraries that is not amenable to a technological solution. This is a world in which fantastic schemes available on the internet and the web are presented as if they were real components of the short-term future, despite the fact that they fly in the face of history and facts. We do not need these urban myths to be propagated in LIS schools, or worse, to be presented as facts to a new generation of librarians".

What we need is a cooperative understanding and outlook of the issues (or problems) that Library Science faces at the international level, through an analysis of the real problems and needs of our profession. And this analysis should evolve around the development of modern librarianship, based on the real needs of society for access to information and not on how Library Science will become Information Science.

Qualifications - Skills	Course Description
Collection development – management	Collection Development and Management, Selection and Acquisition of Materials, Introduction to Technical Services
Evaluation of Internet resources and materials	Internet Content Management, Web Technologies for Information Specialists
Evaluation of library services	Evaluation of Information Systems, Assessing Information Needs and Evaluating Information Services
Interviewing skills	Staffing Information and Information Technology Positions
Ability to change	Information Use for Organizational Effectiveness
Information Architecture	Information Architecture: Web Design Usability, Information Architecture for the Web, Information Architecture
Library automated systems	Microcomputer Applications
Design and management of databases	Design and Management of Databases, , Database Theory and Development
Markup languages	Design and Authoring for the WWW, Markup Languages for the WWW, XML for Libraries
P/C programming	Web Programming, Elements of Programming, Programming Techniques for Information Systems
Use of documents in different formats	Organization of Information
Ethics and Social Responsibility	Ethics and Information, Intellectual Freedom and Social Responsibility in Librarianship, Ethical Concerns of Library and Information Professionals
Web page design – management	WWW Page Design and Management, Web Design Specialization, Website Development and Administration/ Management
Participation in consortia and human networks	Cooperatives, Consortia and Networks
Preservation of materials	Preservation Management of Physical Records, Conservation and Preservation, Preservation of Library and Archival Materials
Knowledge Management	Knowledge Management, Knowledge Management Principles
Financial resources management	Economics of Information, Microeconomics, Financial Management, Resource Management
Human resources management and evaluation	Human Resources Management, Information Service Personnel
Projects management	Program Evaluation, Management and Project Control
Library facilities management	Planning Library Facilities

Networks	Computer Networks, Networks for Information Centers, Networking Technologies
Library administration	Advanced Library Administration, Introduction to Library Management, Library Supervision and Management
Insight in transferring traditional operations in an online environment	Geospatial Information Management
Virtual reference	Internet Reference, Digital Reference and Information Retrieval
User education	Library Use Instruction, Reference and Instruction Specialization, User Education : Multimedia
Reference services	Adult Services in Libraries, Reference and Instruction Specialization, Automated Reference Services
Problem solving	Creative Problem Solving, Information Use for Organizational Effectiveness
Scholarly communication	Scholarly Communication
Ability to work alone	Independent Work, Special and One Person Libraries
Working experience	Professional Field Experience
Indexing – Abstracting	Indexing, Indexing - Abstracting
P/C software	Microcomputer Applications
Leadership	Leadership and Management Principles for Library and Information Services, Leadership in Theory and Practice, Leadership in Organizations
Electronic Publishing – Publishing	Electronic Publishing, Electronic and Contemporary Publishing, Electronic Publishing - DTP,Electronic Publishing on the Web, Publishing
Knowledge of library's subject content	The Special Library, Information Sources and Services in the Humanities, Health Information Resources, Social Science Information Services
Storytelling	Storytelling, Storytelling - The Art and Practice of Library Storytelling
Understanding user demands and information needs	Information Needs Analysis, Human Information Behaviour, Behaviour of Information Users, Information Seeking Behaviours, Understanding Information
Cataloging	Organization of Knowledge, Cataloging and Classification
Marketing	Marketing of Information Centers, Marketing and Planning for Libraries, Library Marketing, Marketing Principles

Metadata	Metadata Architectures and Applications, Treatments and Exploitation of Information and Information Systems, Cataloging and Metadata Management
Knowledge of foreign languages	Specialized English, Foreign Languages in Science and Practice
Financial skills	Economics of Information, Library Fundraising, Microeconomics, Electronic Commerce, Financial Management
Serials collection	Serials, Managing Serials in an Electronic Age
Multimedia	Design and Production of Network Multimedia, Preparing Instructional Media
Service orientation	Public Relations
Research skills	Research Methods, Information Seeking, Library and Internet Research Skills, Introduction to Research
Communication skills	Research, Evaluation and Communication Skills, Communication Training
Statistics	Mathematics - Statistics and Logic of Information, Quantitative Methods
Work in a team	Information Use for Organizational Effectiveness
User interface	Interface Design, User Interface and Website Design
Personal career	Knowledge Structures and the Information Professions, Portofolio Development
Classification	Classification, Cataloging and Classification
Knowledge of current developments in ICT	Current Issues in Global Information Infrastructure/ Information Transfer
Knowledge of current developments in LIS	Foundations of LIS, Current Problems in LIS, Current Issues and Trends in Library Services and Information Science
Digital collections	Management of Digital Records, Organizing and Managing Web Resources, Digital Librarianship, Design and Implementation of Web-based Information Services
Digitization	Digital Libraries, Issues in Preservation, Access and Digitization, Digital Librarianship
ICT	Tools of Internet and Office Automation, ICT Applications, Internet Technologies and Applications, Information Technology in Libraries
Information Literacy	Information Literacy Instruction, Tools for Information Literacy, Information Literacy

Table 1. Qualifications and Course Description.

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