Introduction

This article reviews briefly: a) the emergence of an information society and the analysis of the consequences of the new technology infrastructures; b) the profession definitions; c) the elements of information; d) the importance of library education; e) UNAM master’s program in library education including history, program, professors, students; f) conclusions.

During the period 1970-90 there were a development of databases and the multiplication of on line information services. Later on the growth and exponential use of Internet, the multimedia resources and the electronic networks make necessary the modification of the information management models of the superhighways. Legal, economical, ethical concepts of the production and circulation of information have to be studied profoundly. At the same time everybody is interested in participate in this information revolution which has been compared to the printing revolution.

More than never a global information management is necessary. The universal access for citizens, groups, commercial enterprises, business firms are becoming more autonomous. There exists an enlargement in the professional intervention field. The information and documentation sectors are developing progressible around the documents and their management, their exploitation and circulation; their content and integration to the work and decision processes.

The book catalogs are transformed into automated ones or in databases accesible on line or on compact discs. The digitalisation and the electronic administration of documents bring a documentation engineering which allows a better treatment and exploitation of the documents.

Besides, the need to be informed has always been a vital need for governments, administrations, commercial enterprises, humanists and men of science.
The networks and Internet facilitate the electronic information transfer worldwide and make possible the fertile interactions among several society personages.

Nevertheless, where large numbers of the population have still to attain an acceptable level of literacy, as in the case of Mexico, then the so-called traditional library service is still needed. But alongside this will be the sophisticated service which eventually will cause the conventional service to reduce.

It is vital that schools of library and information science as well as the professionals and researchers retain a sense of their own identity: what it is that they do which differentiates them from everyone else. This is not to argue that the schools should not forge meaningful teaching and researching links with other units; nor that the professionals and researchers should not get involved in interdisciplinary projects. The above is essential in a multidisciplinary field. But it is necessary to point out the risks of doing this in the absence of a strongly identified focus.

**Profession definitions**

The difference between an occupation and a skilled learned occupation called profession is in the individual who is the important element not the structure on which he moves. To exercise an occupation is to master a "know how" and the recognition of an identity. There is a need for an articulation of the individual, the "know how" and the identity.

Traditionally a profession cumulates a theoretical and a practical competence. A profession acquires a social identity by mastering the following points: coherence of the practical and theoretical knowledge on which it is sustained, efficiency in the description ways and professional regulations, and coherent representation of the public service notion.

The members of a group or society are in interaction with the human environment, for this confrontation they acquire an identity because the others make them understand how they are. A professional identity is at the same time personal and given
by the others. The identity construction continues during the whole life. In order to attain identity a human being articulates three aspects: to feel in accordance with his status, his function and others opinion. We need to recognize the vital link between career development, high standards of service and professional status.

Several definitions for a librarian are currently accepted: a traditional librarian, an information specialist, a cyberlibrarian, an information manager, an information engine.

Blaise Cronin identifies three work levels for the professionals: a) the traditional work in the library as librarian; b) work with the world of information in virtual libraries; c) work as information marketing specialist, as coordinator of databases, as information manager; d) work with technology as software or hardware engineer or as telecommunication manager.

In conclusion Cronin mentions that professionals ought to be able to compete in the emergent information market.

The profession will gain complexity: economic intelligence, internal and technical documentation of the enterprises, navigation of the electronic networks, multimedia products, bibliometrics. At the same time the profession is confronted to a multiform change: social, economical, technological, organizational and cultural. From its capacities of adaptation, innovation and aperiture depends its future.

Librarians need more than their ordinary bibliographical skills and basic training in information retrieval techniques. Professionals have to guide the user in the efficient use of numerous information networks.

An MLS background is necessary together with the following personality traits: enthusiasm for the work, good memory, a love of deciphering obscure citations and tracking down elusive documents - combined with an aptitude for making quick decisions, interdisciplinary and flexible attitude.

Professionals ought to be able to communicate effectively by speech or writing and interpersonal skills are more important than being an expert in a particular area. Professionals ought to act as filter to evaluate and interpret the information to the user.
Information

Information makes sense for the society; it is very much related to its development and the professional intervention gives it human and social values. Society needs access to information. New technologies and the wider recognition of the value of information should increase demand for people with both information management and information technology skills.

A new and global information management is needed for the service of the individuales and the society in order to: a) make possible the efficient navigation but creative and selective in the cyber-space; b) develop and exploit the useful information; c) evaluate the information produced by organisations which, for a long time, has been dormant. This global information management will bring a rich diversity of products and services and of professional practices beyond the data bases on line and on compact discs.

Besides the bibliographic information and the scientific and technical documentation there will be medical and geographical information, graphic and sound, statistical data, informal not structural information, legal, ethical and linguistics aspects of all these products and services.

Technology, which facilitates information services, is complicated. For achieving success in the profession of librarianship, besides having specialised knowledge, the librarian should have skill in action with the emergence of the World Wide Web, the main navigation tool for the internet, and its associated browser Mosaic followed by Netscape and Airmosaic. Librarianship does involve intellectual work as well as skill.

The existence of information exploitation beyond the library and the librarian’s limits - where it becomes a common good administered directly by the user from his home or work place, assumes a complete change in library education.
Library education

Educating the future professional presupposes:

- To intensify a dialogue beyond the geographical and disciplinary boundaries.
- To move from a service orientation attitude to a more business-like and related to the market economy.
- Internal alliances with other university departments and employers in order to attain the interdisciplinary element.
- To look for flexibility and greater diversity in the curriculum.

- To answer the following questions about library education:
  a) a definition of a librarian related to its place in the new world of information;
  b) which courses to be offered in the program which suited the new technology environment in library education;
  c) how many hours of the program will be enough for theory and how many for practical work if any;
  d) is there a need to prepare teachers and how does the program feel this need;
  e) how the program will render professionals as well as researchers;
  f) how continuing education could enrich the competences in relation to the needed specializations;
  g) a classification of borders among other professions such as communication, information science, informatics, to avoid the risks of fragile employment situations;
  h) an analysis of the job market to know what employers want.

There has been an attempt to define the librarian or information professional. It is felt that the pattern of LISc education in Mexico, should be able to answer the questions formulated above and meet the challenges of economic, scientific, technological, social and educational needs of the country.

In the context of the current and likely future developments in library and information services, more emphasis on information technology including library automation in the curriculum with necessary hardware and software facilities are required, keeping in view the fact that Mexico cannot completely do away with traditional libraries and go for allround latest technologies adopted by the advanced countries of the world.
UNAM Master’s Program in Library Education

History

Library education was established in 1956 at the UNAM (Universidad Nacional Autónoma de México) which has since 1551 been recognized as a center for professional education in Mexico.

The UNAM, located in Mexico City, is the largest university of the country, and the only one providing, on a continuous basis, a library education program at a “licenciatura” and masters level. The school library is administratively located within the “Facultad de Filosofía y Letras”.

The program allows the student to study fours years at the undergraduate level and two years more at the graduate level. This length of time at university level is similar to the program at the Royal School of Librarianship in Denmark. This document will discuss the graduate program.

Unlike many library schools which have dropped the term “librarianship” in favour of such terms as “Information Studies”, “Information Science”, “Communication Studies” and “Information Management”, the Library School at UNAM in an attempt to stabilise the curriculum has maintained the term “Librarianship”.

The purpose of the school is to provide education and conduct research and development work in the library and information field.

In 1972 it became clear that the Library School program had to redesign its courses to prepare students for opportunities in academic and special libraries. In the light of the increasing opportunities in information-related careers in non-library fields as well as in libraries a new curriculum in library science was implemented in 1982.

Later on the number of career opportunities available to library professionals outside conventional library settings grew. The school began to evaluate and upgrade those curricular elements oriented towards new technology and employment in non-traditional areas.

The program discussed below is a new program called Master in Library Science and Information Studies.
Program

Library education at UNAM has not developed at the same rhythm as the employee market. Teaching makes efforts to be prospective, but the complex administration of the university makes difficult the program changes needed to update it. It takes too much time to add or cancel a course, in contrast with the accelerated rhythm of the information and technology world.

The study program for the Master in Library Science and Information Studies has the following objectives:

a) to provide formation in the application of the library research methods; b) to develop in the professional a highly innovative, technical and methodological capacity; c) to prepare high level personnel.

Specific objectives:

a) to form human resources for research in library and information systems;
b) to relate theory with practice considering the different group of users and their information needs; c) to encourage work among librarians and professionals from other humanistic and scientific fields, with the purpose of teaming up in order to develop research projects and elaborate information products.

Criteria for admission to this program are a "licenciatura" degree in library science or in the humanities or scientific fields, library experience, being competent in a second language, an average of 8, and computer knowledge.

Inherent in the philosophy of the library and information studies program are such key features as:
- Flexibility and freedom of choice.
- Emphasis placed on theoretical aspects and methodological elements and instrumentalities.
- Independent study efforts.
- Evaluation and assessment built into all courses.
Courses in library education have been offered at UNAM for over 40 years. Through the years, the program has been periodically revised in response to philosophical and technical changes in the field of library science. Professors and students course evaluation data, which included both numeric ratings and written comments, were reviewed.

The methods used to evaluate the program included matching program elements against lists of criteria of competencies, eliciting graduates perception of the program, and measuring the performance of graduates. Surveying graduates to determine their satisfaction with the program has been another evaluation method used. This was done through personal interviews.

Criterion-based methods involve measuring program elements against recommendations of two professional associations AMBAC ("Asociación Mexicana de Bibliotecarios") and "Colegio Nacional de Bibliotecarios". In a way the recommendations were based on standards defined by expert groups such as the IFLA (International Federation of Library Associations and Institutions).

The performance of graduate methods for program evaluation included an analysis of the jobs and institutions where they work, to find out that they were at the executive levels as teachers, researchers or librarians.

The size and complexity system at UNAM indicate that the tasks of maintaining academic standards require an intensive and collaborative effort by various agencies: the university administration, library and information professionals, teachers and students.

The Master's Library and Information Studies can be taken through a 80 credit hours which includes the thesis elaboration.

The first semester, where the courses are compulsory, is labelled "Basic Courses", encompassing the fundamentals and more instrumental aspects of library science as well as the importance of culture and information in society.

The second and third semesters emphasis are placed in any of the five areas which form the program:
1) Historical and sociological aspects.
2) Information systems.
3) Information technology.
4) Information use.
5) Information communication.
The fourth semester is reserved for research towards the presentation of a written thesis and/or an oral examination.

The program offers courses and seminars in the following areas: indexing theory, classification theory, database and interfaces design, problems related to retrieval, literature searching, interaction between the searchers problem situation and the formulation of the information need, information technologies, online searching, multimedia, networking, metric studies, information management and information economics and marketing, representation, relevant assessment and quality and use of information, research methodologies.

Finally a PhD program will be launched in 1997; the program will be available to holders of the Master's Library and Information Studies degree in a range of humanities and scientific disciplines.

There is also a continuing library education program at UNAM, but does not belong to the graduate program.

**Professors and students**

Professors at UNAM are also researchers and have masters and PhD degrees from Mexican, American and British universities. Their backgrounds are in history, art history, literature, library science, computer engineering. In comparison with other Latin American countries practically no visiting professors have been invited. The teaching methods used by the professors are: lectures, seminars, group discussion, case-studies, projects and tutorial work.

The enrollment in 1956 was of 7 students. From 1995 to 1996 the number increased to 163. The number of students decreased from 1980 to 1984. This was due to the fact that the official program was not updated, and since the academia was not preparing students with technological knowledge in the discipline, there was a drawback in the professional practise.
During 1982 the program has been updated, but it is not until 1985 that the recovery is reflected by a considerable number of students enrolling in the program. From 1956 to 1996 the enrollment of students has raised, but not the number of graduates. One of the reasons for this is that once finished with the courses, it is not a requirement to obtain the degree in order to receive a good salary. On the other hand the number of dropouts has decreased from 63 in the 70's to 3 in the period 1995-1996.

The number of graduates working in their thesis has increased from 6 at the beginning of the 90's to 18 in 1995-1996. It is expected based on the two existing programs named: a) Stimuli to the universities academic staff and, b) National System of Researchers, that more students will write their thesis and start new research projects.

Generally the students with tremendous potential have not difficulty in obtaining appropriate positions after they have completed their library education program.

The distribution of some graduates by work place is as follows: 15 researchers, 18 faculty members, 27 executives, 7 professional staff. Their background is 60% library science, 35% humanities and 5% science. The number of students attended by professor is from 10 to 15. IFLA recommends 12 students per professor. Many students completed their library education on a part-time basis, often over two or three years.

Conclusions

This document has reviewed the trends of library education in the world with the objective of presenting the graduate program of the National University of Mexico, UNAM.

Although norms have been followed, comparable to the guidelines for graduate study programs in library and information science adopted by the Council of the American Library Association, it is necessary to establish academic planning evaluation and implementation boards to improve continually the academic standards.
Careers are going to be more varied as we approach the millenium; these changes are expansion predominantly positive and presupposes a changing role of the professional.

Curriculum development has followed the inevitable lines dictated by technology. Educators are faced with the task of selecting a diet of courses which together offer an exclusiveness sufficient to satisfy current and future professionals.

Knowledge, and by extension information are becoming central to the emerging social and economic order.

Since librarians deal with knowledge in manual writing, printing, computarized forms and sustained in parchment, paper, magnetic supports or optical disks, it is imperative that UNAM LISc program as it has been continues as a public responsibility.

Then the graduate students will administrate, develop, activate the document collections and the dormant information for the benefit of the population.


