

Methodologies for the Teaching and Learning of Information Literacy in Two Mexican Universities

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Abstract: This paper presents the teaching experience on the subject related with Information Literacy in Library Science students of two Mexican Universities. The teaching methodology used is described and obtained results are analyzed. Finally, a couple of considerations about the relevance of applying Information Literacy models so students may use the mentioned skills in their academic-training processes, recognizing their significance as an essential process throughout life. Better education practices that may support an improvement proposal for teaching are also considered.

Keywords: Information Literacy; Information Skills; Teaching Methods; Educational Methodology

1. Introduction

Pedagogy anticipates what men should be, afterwards, it searches for the tools so men may become what they should.
Ortega and Gasset

Current university education is influenced by factors like globalization, post-modernity, and information society, originating a framework of new relations and dependencies, as well as the role-restructuring of several elements in the education process. So, an instructive-professionalized educational model centered in the professor with an emphasis in teaching and learning is moving on towards a model centered in the student, highlighting learning.

More and more institutions choose teaching models aimed towards the student's self-training and management. These models include diversifying and revaluing learning types and experiences, as well as the creation and use of several learning environments, evaluation forms, and educational supports framed by Information and Communication Technologies (ICTs).

The ultimate goal is to offer students an ideal environment to develop cognitive and metacognitive processes which allow them to acquire the life skills pointed out by UNESCO: learn to learn, learn to do, learn to be, and learn to coexist.

Thus, to develop these basic skills, Information Literacy (IL) is integrated in the higher education process. Since being a *global, social, and educational process in which the individual is expected to learn to learn, to use information in every aspect of his/her life and throughout it by mastering a series of skills in information and technology use, having a critical, analytical, and reflective attitude.* (Mireles Cárdenas, C.)

The teaching and learning of IL requires a training that develops skills in both sides: getting trained and teach. So the question is, what teaching and learning methods are being used for IL?

To answer this question, the aim of the present document is to analyze and consider the experience from teaching this subject, including the description of performed activities and literature review on the topic. Also, reporting and releasing obtained results is an opportunity to offer a relevant and timely answer to the changes and demands requested by the environment, as well as to identify the rights and wrongs carried out preparing and giving classes.

2. University Education on Library Science

The University is by excellence a center of problems and quest for answers.
Ricardo Nassif

Since Library Science organizes, administers, and manages information recorded in any type of document, and Information and Communication Sciences are focused on knowledge transfer, in University education they face the consequences of scientific and technological changes on: a) the library (originating institution), b) profession, c) Library Science itself. *Delgado López- Cozár (1994)*

Although the role of the library as an instrument and teaching center is still valid, recent information needs require other information centers with different document types and services offered.

In relation to librarians, their traditional role has been to protect and organize information as the basic idea and reason for existence, but in reality, their work has always been making information useful for users. *A. Calderón Rehecho (2010)*. However, since technological advances have incorporated several professions into the treatment of information and empowered users in information recovery, librarians transformed. Nowadays, besides the skills of a librarian, he/she requires the skills of a computer expert, communicator, motivator, and teacher.

Regarding the scientific profile of Library Science, it feeds of knowledge that offers a response to practical functions and a solution to problems related with social phenomena which in turn create, reproduce, release, and appropriate knowledge. It becomes evident that university training is ideal to strengthen the scientific-academic and technical-functional character of the profession by providing the student the essential knowledge to work and carry out this job as a productive activity for himself/herself and the social environment.

In this situation, teaching methods used, for example, to teach and learn IL, are expected to prioritize the transmission of the complete view of library profession. As a result, students would develop the skill to identify, comprehend its own facts, and apply the acquired knowledge to solve specific cases from several information environments of their profession and, with this experience, they would give feedback to library theory. *Lafuente López, R.; Morales Campos, E. (1992)*

Although since the beginning of the 20th century, to a greater or lesser extent, librarians have performed teaching and training activities, Library Science has not developed its own teaching and learning methods. As some other disciplines, it has incorporated and adapted different methodologies used in the field of education, didactics, and research. It should be kept in mind that educational methodology includes every method, procedure, and technique that education uses to achieve its objectives, and didactics methodology refers to teaching processes, which along with those of learning, shape the training process.

Since the education act is an influential or leading process towards current cultural and social forms, in its process there is no single or better method, but research or teaching methods among others, that the educator chooses from several angles according to the student’s interests and skills to encourage his/her training. Thus, basic research methods continue to be the great courses from which several phases of teaching are organized. From these, the procedures or series of activities shown in certain teaching phases depart. (Table 1).

Table 1. Basic methods and resulting procedures

Basic methods	Procedures
Induction:	Observation, experimentation, comparison, abstraction, and generalization
Deduction:	Application, prove, and demonstration
Analysis:	Division and classification
Synthesis:	Conclusion, definition, summary, and recap

Source: Métodos de enseñanza en Bibliotecología. (Teaching methods in Library Science) 1968

These activities are executed from a series of experiences such as: memorizing, thinking, management and elaboration of training materials or contents, planning; direct or indirect observation of the facts, document search, written documents, discussion, problem approach and problem solving, information search, data and information collection and comparison, application exercises, revision exercises, or exercises in the same practical activity connected with the study subject. *Ricardo Nassif (1968)*. In this context, it is important to consider support resources (manuals, guidebooks, among others), as well as the setting where the teaching process is being held.

Likewise, using different spaces from internal and external surroundings of university institutions such as libraries, laboratories, auditoriums, group work-rooms, companies, among others, encourage the learning process and become active stages inviting to work in various ways, as well as the use of several resources and learning strategies. In spite of the significance the professor decreases favoring a more independent learning. *Fuentesanta Hernández Piña (2005)*

3. Experiences in Two Mexican Universities

On June 24, 1916, the National School of Librarians and Archivists in Mexico is inaugurated, being the first precedent of formal education in the field. Currently, eight schools in the country provide university level education, from which the Bachelor's Degrees taught in the National Autonomous University of Mexico (UNAM) and in the Autonomous University of San Luis Potosí (UASLP) are the most solid, given their teaching programs permanence and quality.

Library Science teaching in the UNAM dates from 1956, when the University Council approved the Master's Degree in Library Science and Master's Degree in Archival Studies. To date, the study plan has been updated several times, the most recent in 2002. This one is based on a study plan with 51 subjects, 360 credits, and a duration of 4 years, named as Bachelor's Degree in Library Science and Information Studies.

The School of Information Sciences of UASLP offers the Bachelor's Degree in Library Science since 1980. Its current enrolment is 197 students and the educational model, under which the valid study program was designed, is based on skills development. Hence, the contents of the 40 topics express the knowledge, skills, and attitudes expected to be developed. Students have to attend class for 8 semesters with a time load of 80 hours by semester.

In both Bachelor's Degrees, the subject of Information Literacy is given in the 7th Semester. Table 2 summarizes and relates the experiences from teaching IL and describes the methodology used in the time frame from 2011 to 2013.

Table 2. Basic data of Bachelor's Degree

<i>Name</i>	
UNAM. Bachelor's Degree in Library Science and Information Studies	UASLP. Bachelor's Degree in Library Science and Information
<i>Name of the subject, semester, and requirement</i>	
Selected topics of Library Science 1. <i>Development of Information Skills. 7th Semester. Optional</i>	<i>Information Users. 7th Semester Mandatory</i>
<i>Objectives</i>	
To know IL theory and apply it to create programs that allow the localization, evaluation, and efficient use of information.	Design users' training programs to use services and resources of documented information, based on the characteristics and needs of information of different user communities.
<i>Contents</i>	
1. Theory 2. IL in Libraries 3. IL programs	1. Information users 2. User studies 3. User training
<i>Methodology (methods, procedures, and techniques)</i>	
Readings, presentations, discussion, arguments, elaboration of concept maps, brochure design, posters; solving practical tasks, students as "Conference Teachers" for their classmates. Individual and group activities using Social Web. (Tools 2.0 Dipity, Slideboom, Slideshare, Prezi, GoogleDocs, among others).	Subject's site: Google Sites. Initial diagnosis, teacher and students presentations, reading analysis, elaboration of comparison charts, timepoints, summary, research. Activities on actual settings (library and schools). Individual and group activities.
<i>Results – products</i>	
User studies. Final exercises. Conferences and programs for special communities. BLOG in Posterous / Space at Edmodo /	User studies Guided visits in the library IL activities Students' articles and papers.

Thesis project to obtain a Bachelor's Degree.	
<i>Evaluation</i>	
Design of an IL project from the library for an undetermined school level. Students' self-evaluation.	Teacher's evaluation. Students' self-evaluation. Improvement proposals.
<i>Basic references</i>	
Rules and models of International Library Associations. IFLA, ACRL, ALA, ANZIIL, SCONUL, and UACJ of México	

Source: Study programs and class logbooks.

4. Final Thoughts about the Teaching and Learning of Information Literacy

Educate is knowing, communicating, exchanging, and coexisting.

The subjects stated here expect to examine strategies and contents of IL, with the aim to train future professionals in the field. Using the same IL as a teaching-learning process, the development of a series of skills established by models and rules from several worldwide professional associations is encouraged. Students should acquire skills as being a computer expert, communicator, and reporter. This will allow them to identify their information needs, locate, value, organize, use information ethically, and communicate information, as well as to self-evaluate the process and the elaboration of products.

It should be kept in mind that skills are: *the group of performances (what it is done) and attributes (how it is done) that holistically considers people's knowledge, abilities, and attitudes in a specific environment to solve several problems.* José Francisco Martínez Licona, 2012

These teaching experiences showed that performed activities did link established theory contents with the elaboration of information and training products as achieved practical results. Tasks were designed to promote the analysis, consideration, and discussion of treated subjects, to later transfer them to the professional field. Some activities are oriented towards individual work, while others require group work and collaboration. The use of Information and Communication Technologies turned out to be significant throughout the process, as well as personal contact from activities in the classroom and library, allowing the development of the humanistic side of the profession.

Information resources from both Universities start off every student's potential by offering products and services that facilitate free access to information sources, as well as providing adequate spaces to stimulate active learning and encourage equal opportunities for all students regardless of their social and cultural background.

Final self-evaluations of students showed the most correct methodology and improvement opportunities to be considered. Comments about the excessive load of activities requested by teachers indicated this may not motivate the student, so now the aim is to balance and integrate a minimum of required activities to develop skills. Likewise, if students explore and choose complementary readings and activities these become significant, revealing their own interests, knowledge, and aspirations.

Training to train includes the assumption of students having an active role in their own training process. So, in the study plans for information professionals training, skills and rules of IL should be included in all subjects, as an element of the educational model. This is the proposal of the authors, since their teaching experience demonstrate the latter is possible.

5. Conclusions

Facing a changing world, education requisites and needs require a revision and continuous adaptation of curricular contents and their methodological structure, influenced as well by situations and problems related with the education system itself, financing, and education reforms.

Although Library Science has not developed its own teaching method, contributions and proposals to improve teaching are encouraged by considering the concept of teaching-learning process and the nationalization of academical practices of its own and another disciplines that have an impact on education environment.

Understanding teaching models, using didactics, and instructional designs appropriate for each context, as well as practicing IL skills in the training process performed by the students, become the best teaching and learning methodology. As an individual or collectively, it provides the basic tools to consider and analyze information use and recovery, obviously, with the available technological support.

Besides, IL has become a field of action and opportunity so librarians reinforce their social relevance and demonstrate their ability to adapt, collaborate, and lead.

Without a doubt, to teach life-education and respond to current worldwide academic and work demands, practicing activities in real settings proves to be the ideal method so students become aware of what training practice implies

and requires. It is the best way to learn, correct, incorporate, and innovate knowledge in their education process, where the student has the leading role.

Our main test, for us who participate in teaching activities and proposals in any area, is to comprehend and adapt to the challenges provoked by the constant and rapid changes in the present world. A suggestion is to assume we are professionals who also learn and face a permanent process of learning to learn and learning to teach.

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