

Information science courses and the graduate job context in Spain

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Received 1 September 2009

Revised 21 December 2009

This paper supports the appropriateness of the objectives of the Librarianship and Information Science (LIS) graduate university studies system in Spain. It identifies formulas to allow the construction of innovative study plans which are attractive within the information society. LIS university studies started in Spain in the 190s although professional training has been available since the 19th century. This gives an historic perspective from which to analyse what has been done and the goals achieved using different parameters. The authors have adopted a critical vision because they argue that the objectives defined for LIS programs have only marginally been achieved, and the new fields and work prospects have not been very well explored. As a result, an important fall in the registration of students in the LIS degree has occurred over recent years.

1. Introduction

Librarianship and Information Studies have existed in Spain for almost thirty years. Overall the institutionalization of training has been positive, providing capable professionals who have been trained for information management. We are now in a historic moment, that of the Information Society, in which LIS should become one of the most demanded areas of study. However, we barely see any repercussion of this in society, and there is a continuous decrease in the number of students registered in these studies in Spain. The above reasons have created an intense debate in Internet forums, such as Iwetel, an Internet forum for librarianship professionals which questions the road that these studies follow in universities. The universities are accused of not knowing how to adapt to a new professional reality in which, for example new fields such as electronic administration or competitive intelligence, are operational, in summary, a new professional field dedicated to information management organizations, far removed from the classic professions of librarian or archivist. The article draws upon an analysis on official, quantitative data, supplemented by qualitative data derived from statements by professionals and academics found on Internet forums and in published papers.

LIS studies have been questioned over the last few years in Spain in several articles. Some authors think that LIS curricula (lesson plans) have failed to adapt to the changes that the IT transformations have brought about in organizations; and the consequent changes in information management [1]. Other articles have drawn special attention to specific aspects such as electronic administration [2] or competitive intelligence, which as yet barely have any impact [3]. Although some studies have been made on the topic of Spanish LIS graduate employment [4], we think that a more complete analysis, with a critical vision of the Spanish situations, is missing. This would provide a unique opportunity to try to change and to look for a new vision of these studies in Spain. LIS programs in Spain face the same challenges as those in other countries, including the US [5]. Reflections arising from this situation suggest that Universities must adapt to the new reality of the Information Society and IT [6,7].

2. The origins and evolution of LIS in Spain

LIS programs in Spain became university-based in 1978, with the publication of the decree that established the Spanish University system. In 1981 the guidelines which had to be followed by all universities were published. This was the first stage of the academic degree known as “Diplomature in LIS”, with a study plan of three years. Previously, LIS studies had not been offered at university level, but were focused on traditional work experience. The first training centre was the Escuela de Diplomática (Diplomatic School), set up by Royal Decree on July 7 1856, which remained open until 1900. The Escola Superior de Bibliotecàries (Librarian Training School) was created in Catalonia in 1915, with the goal of training women librarians to work in the Popular Libraries System, aimed at extending culture within the general population.

After 1978, LIS studies were introduced in Barcelona (1982–1983), Granada (1983–1984), Salamanca (1987), Murcia (1988), Zaragoza (1989), Carlos III and Complutense (1990), León (1991), Extremadura (1994), San Pablo-CEU (1994), La Coruña and Valencia (1996) and Vic (1998).

The second stage started in 1992 when the Bachelor in LIS (Licenciatura in Documentation) was approved, along with guidelines for these studies. The Bachelor's degree was designed to be the second stage of studies, open to those who had completed the first stage of LIS. Furthermore, students who had completed a different first stage degree, could also access the Bachelor in LIS, on condition that they carried out a complementary training course. The Bachelor in LIS was created in the University of Alcalá, the Carlos III in Madrid University, the University of Granada and the University of Salamanca during the 1994–1995 academic year. Later, this degree was introduced in the Complutense University in Madrid (1996), the University of Extremadura and the Polytechnic University in Valencia (1997), the University of Barcelona and the University of Murcia (1998), the Autònoma University in Barcelona and the Oberta University in Catalonia (1999) and the University of La Coruña (2003). While students who had finished the first stage could work as

technicians in archives, libraries and information centres, those with the Bachelor's degree could manage these centres.

Some controversy has been generated by allowing access by other students to the Bachelor's in LIS, because in some authors opinions these graduates are not interested in LIS, but only in obtaining a university degree (second stage). Most of them have only a first-stage degree, and they mainly come from nursing, physiotherapy or teaching degrees.

Presently, the Spanish, (as is the case with other European countries), university structure, is in a process of change because it must be conform to the European Higher Education Area (EHEA), a European political process aimed at laying the foundations of homogeneous university space in Europe, based on quality, mobility, diversity and competitiveness, and that started with the Bologna Declaration signed on 19 June 1999. This means that the two stages of the degree in LIS must be unified in a single degree called "Grado en Información y Documentación" (degree in Information Science).

In Spain, the so-called "crisis in LIS studies" has become clear in various professional forums in recent times, and this has also accompanied by significant student losses. Garcia [8] (2008) argues that other deep-rooted problems have appeared, in nature of LIS cluding those arising from the interdisciplinary science [9], and the weakness of human and economic resources compared to other professions and sciences. These problems are not unique so Spain, but are shared with other European countries as well as the US [10,11].

3. The undefined LIS studies

The debate in Spain over the low number of registered students and the necessity of redefining these studies can be summarised in the words of Delgado [1], a professor from the University of Granada. It generated a broad debate in *Iwetel Forum*.

"The conclusion cannot be more disappointing: while the Spanish university system grows and overcomes the crisis produced by the demographic downturn, the LIS degree sinks resoundingly. The departure of the LIS degree from the general trend indicates that the root problem is endogenous, and cannot be attributed to the global situation in Spanish Universities. How have we fallen so far? Or more positively, what haven't we done to follow the same trail as the Spanish University system? These questions demand a serious and reflexive answer to try to straighten out the situation".

He went on to say: *"After 25 years of being on a university campus, we have been unable, above all those of us who work as teaching staff in the 16 universities where our degree is taught, to convince our colleagues about the utility of LIS for learning and investigation and its legitimacy as a discipline."*

In 2001, Sanz Casado et al emphasized that LIS graduates should enter into the emergent sectors, in competition with business and management graduates, where

they should control other aspects than simply Librarianship [12]. Other university professors such as Tejada Artigas, in 2003 said: *“we are in a competitive professional environment in which the frontiers between jobs are disappearing, and as a consequence of this, we must initiate an in-depth debate to identify ourselves and our professional ends, and see how professional change is affecting us to be able to give a better response to what the society expects of us.”* [13]. The same professor, in June 2009, said that *“the labour insertion studies show how employment for our graduates is negative, and that they are more often recruited as medium-level technicians than as professionals”*, and went on to point out in the context of adaptation to the Superior Education Higher Space, *“that certain conflicts, that are caused by study plan reforms, prompt a certain sadness knowing that not facing particular changes can lead us to the decadence and marginality of our institutions”* [14].

Another important aspect to consider is the lack of clarity in the positioning of LIS studies. They are sometimes included in the social sciences, and on other occasions in the humanities. For example, in the report on new professions in the information society by the Spanish Agency of quality evaluation, edited in 2007 [15], the two stages of LIS are included in humanities. In contrast, the LIS degree appears as a social science in a report by the Spanish Ministry of Labour. Both positions are acceptable: the oldest and most traditional functions are assimilated perfectly in the humanities. But the question is to decide in which directions we can go in the future, and if we want to maintain our status in the traditional working segment.

In Spain the word “librarian” defines a professional who works in a library, this has always been so. Librarians are related to the world of books, and hence are nearer to the field of the Humanities than other sciences. The archivist is in the same situation. However, looking at electronic job offers we can see that new employments are required in other institutions, such as companies, foundations or associations. New archives have appeared as virtual archives, too, and new positions that LIS graduates can occupy have emerged.

Library and Information Science professionals in Spain are called “documentalistas”, a term that is hard to translate and identify in other languages. It should apply to an information manager in any organization, not just in traditional institutions. Instead, the description “Centro de Documentación” (Library and Information Service) is often applied to what are no more than specialized libraries. Other good-sounding names are used, but they are not clearly understood by the general public. Examples are “information manager”, which has been used for the last twenty years, “knowledge manager” or “information engineer”. Also, new employment markets, which do not have a clear profile of the professional who will occupy any specific post, have emerged. One particular field of employment open to LIS graduates is the management of information content on the web.

Some questions now appear: Who is the professional who must manage the information content of the web at a company? Who must abstract, classify and update these contents? Is there another, closer profession?

Table 1
Spanish professor of LIS¹ Academic Year 2006–2007

Official Professors (High level)	13
Official Professors (Medium level)	101
Official Professors (Medium level, old system)	7
Official Professors (Low level, old system)	56
Associate Professors	137
Adjunct Professors	18
Doctor Adjunct Professor (new system)	19
Contributor Professors (new system)	8
Doctor professor (new system)	18
Overall	379

Source: National Statistics Institute.

The profile of Spanish LIS professors (most of them graduates in humanities degrees) has been identified as one of the causes of the identification of LIS with the humanities, and also as the cause of the traditional professional schemes. The area of LIS in Spain is composed of 379 professors according to the latest data produced by the National Office of University Management. Of these, 177 are full professors, 137 are associate professors, and at other levels there are 63 professors. There is a numerical disproportion between high and medium level professors, and new professors, there being relatively many high and medium level professors, and very few low level professors. The old professors are not usually graduates in LIS, while the newer professors are more often LIS graduates.

The LIS goal must be known and shared by the LIS community, citing Cano [16]. When the graduate has obtained a LIS degree, the notion is easier to understand. Without this knowledge it is very difficult to help build common awareness of the professions in LIS. Moscoso, a high level professor [17], studied the implications of ICT on the LIS degree. One of the aims of Moscoso's work has been to discover the degrees of LIS professors. The study concluded that most of them have a humanistic profile, and that it is one of the causes of the lack of modernization in LIS studies. The authors of this paper think that it may be the cause of confrontation between Library Science and Information Science too [2]. It helps to maintain the traditional vision of the profession and does not allow movement towards the new profiles.

The new EHEA in Spain reflects some confrontations that are common in other countries. A university aimed at society and business is a change with which the authors do not agree. In December 2007 the Círculo de Economía -Circle of

¹Three systems remain (hold) in the Official Professor Corps today. Official Professors with high -and medium level- are held in all systems [old, LOU (Ley orgánica de Universidades) and new], but official professors with medium and low level have disappeared in the new system. The non Official Professors (Official is a very important subject in Spanish because this is connected to public administration, through public review that holds all time) in the new system are Doctor Adjunct Professor, Contributor Professors, Doctor professor non Official. The contributor Professors are similar to medium level professors. The doctor Adjunct Professor is a young professor in training, and the Doctor professor no official is a collaborated professor.

Businessman- presented a report “A University for Society”. The role of the University facing social changes derived from scientific and technological advances is studied. It is concluded that the university should be associated with the business world. To the contrary, the supporters of maintaining the university system centred on research and culture only, hold that reinventing the University is dangerous for the traditional roles of the University [18].

The changes produced by the opening of the information and knowledge society have contributed to the appearance of new roles in LIS. Information emerges as a new resource in organizations, and is used actively in such a way that it is transformed into knowledge.

The White Book for the LIS degree [19] contains guidelines for a new four-year academic program. It unites two previous titles: Diplomature in LIS (three years) and Licenciatura in LIS (two years). However, the professional roles defined in it are very similar to the old profiles. A context of development for new roles in the Information Society has not developed, but there is continuity.

The professionals must develop activities in the following centres:

- All types of Libraries, such as national libraries, public libraries, university libraries, school and high school libraries, parliament libraries, and so on.
- Specialized libraries and information centres of Public Administration, enterprise information centres, mass media information centres, editors and book-shops, legal or computer advisors, and so on.
- National archives, organization archives, Public Administration archives and archives of private organizations such as firms, the church, and so on.
- Database Management Enterprises, storage and retrieval of information enterprises, information system enterprises, web pages, information content of firms, and so on.

In the White Book the professional specialities have been enlarged, but one small margin is permitted by the new roles of work experience such as in information management in other organizations, electronic and virtual information, design, management and the updating of web content. However, this is the future work experience available to LIS graduates, or at least it should be. Work in firms is limited to that which is related to the world of information, but the future profiles should be in different kinds of organizations. Examples of LIS graduate work experience are: meat industries, oil (petroleum) firms, building firms, transport organizations, engineering firms, shipping firms, aeronautic firms, photography, and so on. Other work experience is carried out in foundations, chambers of commerce, investigation centres, business confederations, and so on. If we analyse the electronic information and contents, the possibilities multiply, for example: web content management, web master, standards implementation manager, indexer, content evaluator, content coordinator, etc.

Table 2 contains the work experience centres that are offered to LIS students. The overwhelming majority of these centres – 96%, – are those traditionally associated

Table 2
Work experience centres in Spanish LIS (first stage)

Libraries	52.44%
Libraries and information centres	19.00%
Archives	15.50%
Information centres only	9.66%
Other types	3.40%

Source: own elaboration.

with the field: libraries, archives and information centres. In Spain, some information centres are often specialized libraries. Only 4% lie outside these traditional centres.

4. The evolution of LIS students

As noted in Muñoz-Cañavate and Hípola Ruiz (2008) [3] in Spain there has been a dramatic fall in the number of students enrolled in Librarianship and Information Science degree courses. Although there was a golden period of demand for the Diplomature in Librarianship in the 1980s and 1990s, from the 2000/01 academic year onwards there has been a decline which, though slow at first, has accelerated in recent years. In particular, the declines relative to the previous year were -7.49% in the 2002/03 academic year, -9.53% in 2003/04, -14.23% in 2004/05, and -15.40% in 2005/06. There has also been a drop in enrolment in the “second-cycle” courses (Bachelor’s degrees in Librarianship and Information Science), although less pronounced.

In Spain, students who have graduated in one field may also access the second stage of LIS. This situation has provoked students with only a first stage degree to matriculate in LIS at the second stage. Examples of first stage degrees are nursing, physiotherapy or teaching. These degrees don’t have a second stage in the Spanish university system; those who wish to obtain the second stage must study other degrees.

We have to ask what will happen when the new degrees adapted to be in line with the requirements of EHEA are introduced? Will they be successful? The new EHEA degrees will be completed in four academic years, and the first and second stages will disappear. All degrees will have four academic years, including those which in the current system only have a first stage. This may mean that the present students who graduate in other degrees do not matriculate in the LIS second stage, and the number of matriculated students decreases. We think that this reality should worry university administrators.

The LIS degree second stage began in a private university in the 1999/2000 academic year in the Oberta University of Catalonia. It was taught online, and many students chose this university to obtain the degree in LIS second stage (Table 3). Other causes such as e-learning may have also had an influence. This system is suitable for students that work or live elsewhere.

Table 3

Development of students matriculated in LIS second stage by university type: Public and private

	1996/ 1997	1997/ 1998	1998/ 1999	1999/ 2000	2000/ 2001	2001/ 2002	2002/ 2003	2003/ 2004	2004/ 2005	2005/ 2006	2006/ 2007
Public	–	–	1.656	1.952	2.279	2.433	2.444	2.466	2.348	2.138	1.743
Private	–	–	–	879	1.066	1.507	1.386	1.337	1.285	1.131	974
Overall	933	1.242	1.656	2.831	3.345	3.940	3.830	3.803	3.633	3.269	2.717

Source: National Statistics Institute.

Table 4

Temporary employment time. LIS first stage

Contracts	2004	2005	2006	2007
Indeterminate	39.26%	40.76%	39.67%	40.76%
12 months +	0.79%	0.49%	1.31%	0.49%
6 to 12 months	7.37%	6.41%	5.70%	6.41%
3 to 6 months	15.95%	17.91%	18.73%	16.92%
1 to 3 months	14.21%	15.48%	14.31%	15.48%
Less than 1 month	22.42%	18.95%	20.28%	19.94%

Source: National Employment Institute, Ministry of Labour.

5. The employment of Spanish LIS graduates

During the last few years, a number of studies have been carried out in Spain's universities targeted at determining what jobs have been taken by graduates of the two university level degrees in Librarianship and Information Science. Many of these studies, however, were lacking in any effective methodological approach since they focused on that minority of graduates who were willing to respond to survey questionnaires. The result was that they did not reflect the reality of the overall situation for graduates of these courses. The present study uses data compiled by the official government employment agency in Spain, the National Employment Institute (INEM) [20]. This agency is the job monitoring section (the "Observatorio Ocupacional del INEM") attached to the Ministry of Work and Social Affairs which publishes a detailed annual report. The data presented in the following tables were extracted and analyzed from those reports.

5.1. Temporary employment

Employment contracts for less than six months oscillated between 52 or 53% of the total, while those that range from 6–12 months did not exceed 8% in all registered years.

LIS second stage graduates are similar, though somewhat better: contracts for less than 6 months range from 44 to 50%, while those of 6–12 months only oscillate between 8 and 11%. The indeterminate contract numbers do not mean that the contracts exceed 12 months or that they are indeterminate. The length of the contract is simply not defined.

Table 5
Temporary employment contract. LIS second stage

Contracts	2004	2005	2006	2007
Indeterminate	39.53%	40.89%	41.17%	46.24%
+ 12 months	1.23%	0.53%	1.57%	1.03%
6–12 months	9.96%	8.31%	6.85%	8.31%
3 to 6 months	16.63%	18.74%	20.07%	19.48%
1 to 3 months	12.73%	13.53%	12.67%	10.71%
Less than 1 month	19.92%	18.00%	17.67%	14.24%

Source: National Employment Institute, Ministry of Labour.

Table 6
Percentage of LIS first stage graduates between 2001 to 2006

	% contracts	% of persons contracted
Administrative, stenographer, typist and similar	36.51%	37.68%
Librarian, archivist, information worker and assimilates	35.13%	37.68%
Other librarian and information worker	5.14%	5.63%
Pollster and interviewer	2.04%	0.83%
Shop and store worker	7.11%	7.46%
Storeroom and food worker	6.56%	5.41%
Waiter	4.22%	2.42%
Postman	0.61%	0.15%
Telephone operator	2.67%	2.73%

Source: National Employment Institute, Ministry of Labour and own elaboration.

Note: 2003 year data is unavailable.

5.2. The employment of Spanish LIS graduates

In the following tables, the employment data of LIS first and second stage graduates can be seen. For each stage the percentages of contracts and the number of people contracted appear. All tables contain a high number of roles that graduates occupy. Some are in traditional employment areas, for example librarians, archivists, information workers, while others have no relation with LIS tasks, and do not even require a university degree. These jobs include store workers, storeroom workers or waiters, among others.

5.2.1. First stage LIS graduates (*Diplomature in Librarianship and Information Science*)

Table 6 shows that over 40% of the graduates work in typical information institutions. 35% of graduates use their degree to carry out their professional tasks, while all others work in jobs that do not require a degree. Among these are some that work in administrative management (36.51%), in which they manage information and perform other tasks indirectly related to this such as interviewing, but at a level inferior to the degree that they studied.

5.2.2. Second stage LIS graduates (*bachelor's degree in information science*)

Table 7 presents the analogous data to the previous table but for graduates with a degree in Librarianship and Information Science.

Table 7
Percentage of LIS second stage graduates between 2001 to 2006

	% contracts	% of persons contracted
Administrative, stenographer, typist and similar	31.28%	32.44%
Librarian, archivist, information worker and assimilates	44.97%	46.88%
Other librarian and information worker	6.07%	6.38%
Pollster and Interviewer	2.59%	0.59%
Shop assistant and similar	4.69%	4.89%
Storerroom and industrial labourer	3.25%	3.14%
Waiter	2.36%	1.48%
Telephone operator	1.15%	1.21%
Information desk service	0.81%	0.21%
Records management operator	0.49%	0.55%
Teacher	0.75%	0.90%
Community activities coordinator	1.21%	0.90%

Source: National Employment Institute, Ministry of Labour and own elaboration.

Table 8
The most highly requested positions of unemployed LIS graduates from the first and second stages. Percentage of people in 2007

	LIS first stage	LIS second stage
Librarians, information workers and similar	69.66%	77.81%
Other library and archive workers	21.57%	21.30%
Archivists and museum curators and assistants	40.14%	50.47%
Stenographers and typists	15.93%	11.69%
Community activities coordinator	2.69%	1.85%
Administrative and similar	2.47%	1.29%

Source: National Employment Institute, Ministry of Labour, 2008.

With somewhat better percentages, more than half of the second-stage LIS graduates are working in library and information services, 45% as teachers or managers. There is still a surprisingly high proportion of jobs that are indirectly related to information, but at a lower than graduate level: 31.3% are administrative personnel, information desk clerks, records management operators, etc. In our opinion, this is a rather depressing panorama for professionals who, in Spain, have spent at least 5 years at university.

5.3. Professional expectations of students and graduates in LIS

Table 8 shows the most requested positions of Spanish LIS graduates in the Employment Office. One person may request up to six positions. This table shows that the traditional roles are the most highly requested (archivist, librarian, information, museum workers), and not the new positions which are related to information management in organizations. This shows the lack of awareness which exists related to these positions.

6. Conclusions

A critical vision has been shown by the authors of the modifications in the Spanish LIS degree. No doubt, the most important change in the employment market has been the deregulation of the work experience market; this means that work experience can be carried out by people with different degrees. Jose M. Peiró, head of Observatorio de Inserción Profesional y Asesoramiento Laboral de la Universidad de Valencia, said (statements to the newspaper El País, 28-9-2008) "Up until a few years ago, it could still be said that a certain degree corresponded to a certain job. Now people with different qualifications can access a certain job and a qualification can lead people to posts which have not classically been perceived as their own". In other words, when a person studies a certain degree, they are not closing off other options, but that they have a wide choice. We believe that this situation has not yet been produced in the academic context of the LIS degree.

In any event, the authors of this article observe that a clear awareness of the LIS extension plans related to knowledge and information management in all organizations does not exist in Spain. We have been immersed in a process of globalization to access information and the appearance of new formats for decades. However, one piece of evidence is especially clear: in the present Information Society, organizations no longer maintain information systems somewhere in the organization; rather they are information systems in themselves. Thus, the need for a LIS professional among their human resources arises.

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